



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 8 — CHART INFORMATION

SECTOR 8

THE COAST OF NORWAY FROM SALTFJORDEN TO TROMSO

Plan.—This sector describes the NW coast of Norway starting from the area near Vestfjorden, in the vicinity of Bodo to Tromso including Malangen. A description of the mainland, Lofoten, Vesterlan, and the approaches to Narvik, Harstad and Tromso is included. Indreleia and the inner fjords are also described.

General Remarks

8.1 Tides—Currents.—The tides on the NW coast of Norway are always semi-diurnal, with relatively little inequality between heights of the two tides. They are small to moderate in size with a gradual increase in range toward the N. The mean range is about 1m at Bergen and about 2.1m at Tromso.

Weather conditions, both locally and in the ocean off the coast, may considerably influence the tides.

The currents on the W side of Lofoten sets constantly N regardless of the tide, but this may not be the case close inshore.

Along the coast of Vesteralen, the tidal currents nearly always set N with an appreciable velocity. It is strongest with the approach of bad weather and increases in strength near the land. Occasionally the tidal currents set S for about 1 hour, the change occurring at the time of HW and LW.

Off Senja, the tidal currents usually set N following the direction of the land, and often attain a considerable velocity, especially near the time of HW.

Along Kvalø, the tidal currents usually set NE with the rising tide and SW with the falling tide, but they are likely to follow the contour of the coast and the principal reefs. The Kvalø tidal currents attain their strength at about half tide, and often run with a velocity of about 3 knots.

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Along the coast of Vesteralen, the tidal currents nearly always set N with an appreciable velocity. It is strongest with the approach of bad weather and increases in strength near the land. Occasionally the tidal currents set S for about 1 hour, the change occurring at the times of high or LW.

Certain reports published from 1835 to 1848 indicate the current 10 to 12 miles SW of **Andersboskallen** (68°46'N., 13°33'E.) ran N, NE, and E, with a rate dependent upon the wind, but occasionally reaching 4 knots over the shallow banks. These reports must be considered, for where depths change suddenly, as in the vicinity of Andersboskallen, and about 23 and 32 miles farther NE, there may be a strong flow and violent turbulence. In the areas referred to, the NE or E flow is probably strongest on the rising tide with strong S to W winds. Turbulence is probably most violent during the rising tide with strong N to E winds.

In the whole of Vestfjorden the movements of the tidal currents are substantially influenced by the winds. At times when there is little or no current in mid-channel, there is a

regular current along the land on either side, invariably setting in contrary direction on the opposite sides of the fjord.

The tidal currents set NE with the rising tide and SW with the falling tide, along either the mainland or SE coast of Lofoten, but it is uncertain as to when or on which coast the currents will make. Vestfjorden and all major straits are free of ice.

Aspect.—Vestfjorden is a broad and deep body of water that separates the mainland from the islands of Lofoten and Vesteralen. Its principal outlying islands are Hadseløy, Langøya, and Andøya. Vestfjorden is the seaward approach from Saltfjorden and Bodo to Ofotfjorden and Narvik. Both Ofotfjorden and Narvik lie about 100 miles NE of Saltfjorden, at the head of the fjord.

In general, the W and NW coasts of Lofoten are almost inaccessible and should be avoided. This is also true of the Vesteralen group, comprised of four large islands and several small islands, which are dangerous to approach.

The coast of the mainland of Vestfjorden is broken by a number of large fjords. Generally, it rises abruptly to over 900m, and consists of bare rock with a forested lower slopes.

The mountains of Lofoten and Vesteralen are steep and lofty, often covered with snow, and are, most often, easily identified. They may be seen from a distance of 40 to 50 miles in clear weather.

The coast continues to the island of Senja and then to Kvalø. The entrance to Tromso lies between the two islands. Malangen, the direct passage to Tromso, lies between the two islands as well.

Senja, with its granite peaks, presents a rugged and imposing appearance from seaward. A ridge, from 610 to 914m high, runs along the whole island in a NE and opposite direction. Kvalø, to the NE, is mountainous and attains an elevation of 1,045m.

Caution.—**Andersboskallen** (68°46'N., 13°33'E.), with a least charted depth of 37m, lies about 18 miles W of Langøya off the Vesteralen group. There are two other patches within 3 miles N of the 37m spot, with depths of 40m and 57m.

It would be by no means safe to pass over Andersboskallen during a heavy W swell, as this would cause a high topping sea, even if it did not break; rollers set in toward them from a long distance W.

Saltfjorden to Skrova

8.2 Vestfjorden, the fjord lying between Lofoten, Vesteralen, and the mainland, is entered from seaward between **Muken** (66°45'N., 12°29'E.) and Skomvaer Light, 40 miles NNW.

Vestfjorden is deepest at Tranøy, with a depth of about 640m. At this point, it is also the narrowest, and the depth decreases farther S.

Between Rost and Fleinvaer, the maximum depth is about 300m. The fjord is deepest along the mainland. Here the

bottom slopes steeply at a short distance from land so that the relatively shallow parts close to land are narrow.

Vessels approaching Vestfjorden from SW in clear weather will be able to identify Rost, Vaeroy, and Moskenesoy, which form the SW end of Lofoten. Rost, the southernmost island, can be seen from a distance of 30 miles. The latter two islands appear as two steep cliffs. From a distance of 20 miles, one can see the high and pointed small islands of Ellefsnyken, Trenyken, and Hernyken, which are located to the S of Storfjellet. The characteristic formations of these islands make it easy to identify Rost.

When entering Vestfjorden in thick weather, vessels can verify their distance offshore near Lofoten by soundings. There are depths of 100m from about 1 to 4 miles offshore from the S end of Moskenesoy to Skrova, about 47 miles ENE. Soundings give little warning E of Skrova; depths of 200m are found within 1 mile of some of the rocks off the S coast of Hinnoya.

In general, it is recommended that vessels keep close to Lofoten, where there are large flat sea areas with lesser depths, rather than the mainland, which is foul offshore. When E of Skrova, the dangers are all on the N side of the fjord and it is necessary to keep on the mainland side.

8.3 Among the islands lying off the mainland coast are Landegode, 791m high, about 8 miles N of the Saltfjorden entrance, and Engeloja, 648m high, about 45 miles NNE of the same entrance. These islands are conspicuous because of their size and contour.

There are several conspicuous mountains, which rise to a height of 947m, in the vicinity of Ofotfjorden.

The fringing islands and dangers extend about 20 miles W from the mainland in the vicinity of Bodo; north of Bodo the obstructions gradually decrease in distance from the coast.

Helligvaer (67°25'N., 13°55'E.) and Lyngvaer, W of Landegode, comprise the next mass of islets NE of Tennholmen. This group of islets lies with their S end about 10 miles NE of Tenholmen.

Storboen, a drying shoal, lies on the SW side of Helligvaer and Nordboen, a rocky shoal with a least depth of 7.9m, is situated off the N side of Helligvaer, 5 miles NE of Storboen.

Kjengbaen (67°29'N., 14°01'E.), a rock with a depth of 0.3m, lies 2.75 miles NE of Nordboen.

Husoyvaer, situated 18 miles NNE of Kjengbaen, consists of a group of islets and rocks which extends about 11 miles W of the mainland.

Utgrunnen (67°42'N., 14°17'E.), the outer patch of Husoyvaer, has a least depth of 18.2m. Utgrunnflesa, a reef which breaks, lies 1.25 miles ESE of Utgrunnen.

Kjolibaen (67°45'N., 14°23'E.), with a depth of 1.8m, breaks except in calm weather. It is situated 4.25 miles NNE of Utgrunnen, off the SW side of Maloyvaer. Dorholmskjaeran, another danger, lies on the NW side of Maloyvaer, 2.5 miles NNE of Kjolibaen.

Maloy Skarholmen, an islet marked by a light, lies 1 mile NNE of Kjolibaen.

Maloy Skarholmen (67°46'N., 14°24'E.) is a light shown from a prominent tower, 34m in height, standing on the islet. A racon is located at the light tower.

Engelvaer (67°53'N., 14°34'E.) is a group of islands and rocks which lie close NE of Maloyvaer, about 6 miles offshore.

Tverskallen, with a charted depth of 15m, lies 3.5 miles NE of Dorholmskjaeran, at the SW edge of the group.

Several foul patches lie on the NW side of the group, 3 to 4 miles NE of Tverskallen.

Flatoy (67°55'N., 14°46'E.), an island, lies 2 miles NE of the Engelvaer group. A light is situated on the SW part of the island.

To the NE of Flatoy are the islands and rocks of Valsvaer, which extend about 3 miles W of Engeloja, a large island rising to a height of 648m.

Off the N end of Engeloja is Brunvaer, another dangerous group. From Brunvaer NE to Ofotfjorden, the salient features of the coast are apparently free from off-lying dangers.

8.4 The islands of Lofoten and Hinnoya form a chain extending NE to the mainland near Ofotfjorden.

Rost is the farthest SW group of islands on the NW side of Vestfjorden.

Rost (67°31'N., 12°07'E.), the principal island of the group, is a flat, low-lying island surrounded by islets and rocks, none of them visible beyond 7 or 8 miles. Masts equipped with obstruction lights are situated in the N part of Rost.

Skomvaer Light (67°25'N., 11°52'E.) is shown from a tower 34m in height, standing near the S end of the Rost group. A racon is located at the light tower.

Storfjellet (67°28'N., 11°56'E.), 267m high; Vedoy 209m high; and Stavoy, 148m high, lie, respectively, 3.75 miles SW, 2 miles SSW, and 1 mile SE of Rost. These three islets form excellent landmarks.

Tides—Currents.—The general flow pattern in Vestfjorden flows inward along the W. In winds from the SW, the current is partially turned. Most straits on the W and N sides of Vestfjorden have strong currents. High water and LW are occur about simultaneous in all of Vestfjorden. The differences in tidewater levels are among the greatest along the entire Norwegian coast. In a storm from the SW, the water level may be significantly above the anticipated values in the Tide Table.

The passage W and SW of Lofoten, the continental shelf generally has depths of less than 200m with some shoals close to land. The slope in the W is very steep.

The coastal current, running N to NE, dominates the current conditions. Tidal currents reinforce this effect with rising water and weaken it with falling water.

With waves from NE to NW, the interaction between current and waves will create choppy waves. Refraction centers may occur SW of Rost when the waves come from the SW. Close to Lofoten, the waves may also be reflected due to the steep continental slope.

Vaeroy (67°40'N., 12°40'E.), about 10 miles NE of Rost, is separated from that island by Rosthavet. Mosken, a conspicuous two pointed summit lies on the same shoal bank, 3 miles NNE of Vaeroy.

The S, W and N sides of Vaeroy and Mosken are unapproachable and a vessel wishing to enter Vestfjorden from W must do so through Rosthavet, or through Moskenstraumen, 3 miles NNE of Mosken; Rosthavet is preferred. The shoals on either side of these channels are best seen on the chart.

Lofotodden (67°50'N., 12°51'E.), the S extremity of Moskenesoya, forms the N side of Moskenstraumen.

Yttertuven (67°50'N., 12°52'E.), the E extremity of Lofotoden, is marked by a light. From this point, the coast of Moskenesoya extends 8 miles NE to Reine. Rodliskallen, an 11.9m patch, lies 1 mile offshore, 2.75 miles NE of Yttertuven.

A (67°53'N., 12°59'E.), at the mouth of a river 4 miles NE of Yttertuven, Tind, and Bogen, are three fishing villages with a common entrance. They are suitable only for small vessels and local knowledge is required.

Reine (67°56'N., 13°06'E.) ([World Port Index No. 21820](#)), one of the principal fishing stations in Lofoten, is situated 3.5 miles NNE of Bogen. Local knowledge is necessary for entering the harbor, which has a channel dredged to 4.9m. The deepest berths are 3.9 to 5.9m. There is a secure anchorage in the harbor, in depths of 20 to 24m.

8.5 From Reine, the coast of Moskenesoya trends NNE for 4.25 miles to **Kunna** (68°00'N., 13°14'E.), a narrow island, 96m high; then the S coast of Flakstadoya and the S end of Vestvagoya trend NE 8.5 miles to Ballstad. The coast in this area is much indented with fjords and there are numerous off-lying dangers.

The entrance to Kirkefjorden, about 1 mile N of Reine, is encumbered with islets and rocks. Strong winds blow out of the fjord.

A channel, spanned by a bridge 1.75 miles within its entrance, separates the E side of Moskenesoya from Flakstadoya. The bridge has a vertical clearance of 15.9m.

Kunna lies in the entrance to Skjelfjorden, which penetrates the S side of Flakstadoya to a distance of about 4 miles N.

Skjelfjorden is navigable by deep-draft vessels as far as **Stjerdalen** (68°02'N., 13°14'E.), 1.5 miles within the entrance; however, a shoal spot, with a depth of 0.9m, lies about 0.3 mile ENE of the NE side of Kunna.

Nusfjorden, entered about 3 miles NE of Skjelfjorden, penetrates Flakstadoya for about 1 mile. The entrance to the fjord is constricted to a width of about 183m between the light and a danger NE.

Nappstrommen (Nappstraumen), the passage between Flakstadoya and Vestvagoya, is entered from Vestfjorden in approximate position 68°02'N, 13°25'E, and leads N to the vicinity of **Nappholmen** (68°08'N., 13°28'E.).

Gapet, a narrow channel about 1 mile long, gives access to the open sea from Nappholmen. Nappstrommen and Gapet can be navigated by large vessels.

The dangers in the S entrance of Nappstrommen may best be seen on the chart. Most of the dangers within the passage lie on the E side of the fairway, leaving a deep and clear channel up the W side.

Gapet (68°09'N., 13°28'E.) is entered close E of Nappholmen. The white sector of the light on Hudholmen bearing between 326° and 336°, ahead, leads through the fairway.

Northbound vessels from Gapet pass E of Hudholmen.

Anchorage may be taken in Haugbukten, in 25 to 30m, clay and sand, in a position about 1 mile ENE of the light at Nappholmen. It is inadvisable to anchor off the N shore of the bay owing to heavy squalls which blow down from Offersohammen, 1 mile N of the center of the bay. Vessels are cautioned of the submarine cables located in the vicinity of Napp Light.

Buksnesfjorden indents Vestvagoya to a distance of about 4 miles. It is entered NE of **Svinoya** (68°03'N., 13°33'E.), which is about 3 miles ENE of the entrance to Nappstrommen. A light is situated on Svinoya.

Ballstad (68°04'N., 13°42'E.) ([World Port Index No. 21840](#)) is an important fishing port, protected by moles, situated on the W side of Buksnesfjorden, 1.5 miles N of Svinoya. There are depths of 7m in the approach and 4m in the inner harbor. The deepest berths are 4.3 to 5.1m. The harbor is suitable for small vessels.

8.6 Brandsholmen (68°05'N., 13°39'E.) is situated on the E side of the entrance to Buksnesfjorden. The island is 100m high and is the highest in the area. It is impossible to mistake because of its precipitous W side.

From Brandsholmen, the coast of Vestvagoya trends 3 miles ENE; the SE side of the island extends about 14 miles NE to the island of Gimsoya, on the W side of Austvagoya.

Urberget (68°04'N., 13°43'E.), 335m high, rises in the SE part of Vestvagoya, 1.25 miles ENE of Brandsholmen. It is easily identified by its darker appearance and though its summit is always snow-capped, its precipitous slopes hold little snow. Steinetind, 517m high, and pointed in shape, is situated about 3 miles NNE of Urberget. Dalstind, 461m high, and Horntind, 361m high, lie 6.5 and 8.5 miles NE, respectively, from Steinetind. They are the most conspicuous hills on a dark ridge of hills that extend NNE from Dalstind.

Henningsvaerstraumen (Henningsvaer Strommen) is a broad and deep opening between the SE side of Vestvagoya and the SW end of Austvagoya. This sea area extends 10 miles to the NNE, which in turn leads to the open sea.

The area is difficult to navigate due to the many dangers, which may be seen on the chart. The area is one of the principal fishing grounds in Lofoten.

Stamsund (68°07'N., 13°51'E.) ([World Port Index No. 21870](#)) is situated on the SE side of Vestvagoya, close E of Steinetind. It is protected by breakwaters. A stone steamship quay, with timber fenders, has a length of 180m and depths of 5.4 to 6.9m alongside. Vessels up to 16,000 grt have been moored stern-to at an oil storage installation.

Stamsund is a large fishing district with an advantageous location with respect to the fishing fields. Good approaches to these fields are easily recognized due to the many characteristic peaks which can be used for alignment purposes.

Local pilots are available for mooring and warping large vessels.

Anchorage is available in Rakvika, SW of the harbor area, in 17 to 29m, good holding ground, but it is uncomfortable in S and SW gales and in squalls from NW.

8.7 Henningsvaer (68°09'N., 14°13'E.) ([World Port Index No. 21880](#)) is a large offshore fishing station, situated in an island group of the same name, off the SW end of Austvagoya. The harbor is centered on Hellandsoya.

It was reported that the main island of the group was joined to the small island NNE by a bridge, which in turn is joined to Engoya by a further bridge which extends to the mainland. It is reported that a conspicuous lattice mast stands at the S end of Henningsvaer.

The principal channels in the harbor approach have depths of 17m. A steamship quay has a length of 45m and alongside depths of 8 to 11.3m. There is about 1 mile of quayside which is provided with a large number of small cranes.

Local pilots are available on request to the harbor assistant.

From an approximate position of 68°09'N, 14°08'E, 1.75 miles W of Henningsvaer, a channel, obstructed by islets and rocks, leads about 6 miles NNE between Vestvagoya and Austvagoya to the vicinity of Gimsoya.

Gimsoystraumen (68°16'N., 14°15'E.), between Gimsoya and Austvagoya, connects Henningsvaerstraumen with the open sea. It can be used by moderate size vessels and is easy to navigate.

Gimsoystraumen is spanned by a bridge, with a vertical clearance of 30m and a horizontal clearance of 90m.

From Henningsvaerstraumen, the coast of Austvagoya trends about 11 miles ENE to the entrance of Ostnesfjorden (Austnesfjorden).

Off Henningsvaer, at the W end of this coast, patches of 14.6 to 27m lie up to 5 miles offshore. Moholmen, marked by a light situated, is located 2 miles offshore. The dangers that comprise this group may best be seen on the chart.

During onshore gales, the waters around Moholmen and the islets 1 to 2 miles NW are noted for the strength of flow. In such conditions, a violent race occurs in this area and passage becomes difficult.

8.8 Skrova (68°10'N., 14°41'E.), an isolated island, stands out because of its distinctive color and lower elevation. The largest island of the group rises to a height of 313m; it appears as a haystack against Store Mola and Lille Mola (Lille Molla) behind.

Skrova Light (Skraven Light) is shown from a prominent tower 24m in height. A radiobeacon is situated at the tower.

Skrova Havn (68°10'N., 14°40'E.) ([World Port Index No. 21910](#)) is situated in the island group of Skrova. Some of the islands are connected by moles.

The harbor is spacious, with several good quays on both sides of the strait. The quays, which are up to 90m long, have depths of 1.7 to 4.9m alongside. Mooring rings are installed around the harbor.

There are several good anchorages within the harbor area. The best anchorage is located in the roadstead N of St Ramnoya, where there are depths from 16 to 30m, sand bottom. Caution is required due to the reported presence of fish farms in the harbor.

Pilots may be arranged through the pilot station at Svolvaer when a 24 hour advance notice is given.

Orsvag (68°12'N., 14°25'E.), situated 2.5 miles NNE of the light on Moholmen, is the best and roomiest anchorage in the area for vessels of moderate draft, and is easily approached in all weather. The anchorage is in depths of 7 to 8m, sand and clay. Orsvag Hamn Light is a perch marking a below-water rock.

Svolvaer (68°14'N., 14°35'E.) ([World Port Index No. 21900](#)), the largest and best protected harbor along the Lofoten coast, lies on the SE coast of Austvagoya, 4 miles NE of Orsvag.

Svolvaer, the capital of the Lofoten Islands, is situated on a peninsula and on several adjoining islets. Some of these islets

are connected with the peninsula and each other by jetties and bridges.

The port has three harbors. It has been reported a vessel of 8,400 dwt, with a 7m draft, used the main harbor. There are four tanker berths. Vessels up to 16,000 dwt, 158m in length and 9.1m draft can be accommodated.

Submarine cables are laid in many parts of the harbors, as shown on the chart.

Pilotage is compulsory for vessels of more than 500 grt within the port area. The request for a pilot can be made to Bodo, or to Svolvaer pilots, on VHF channel 16. The pilot embarks 2 miles SSE of **Rodholmene** (68°13'N., 14°33'E.).

Sveleia (Sveleden) (68°11'N., 14°42'E.) is a passage between the islets lying N of Skrova and those of Lille Molla; it connects Holen with Vestfjorden.

The channels through Sveleia are well-marked and easily navigated.

Vessels of moderate size which are unable to enter Svolvaer may anchor in Sveleia, as indicated on the chart, in 16 to 30m, sand.

Molldoren leads between **Lille Molla** (68°12'N., 14°46'E.) and Store Molla, about 0.5 mile NNE.

Brettesnes (68°14'N., 14°51'E.) ([World Port Index No. 21920](#)), a fishery harbor in a cove at the S end of Store Molla, is approached from Molldora (Moldora) or from Vestfjorden. The harbor is exposed to mountain squalls, and a considerable sea is raised by S gales.

8.9 Holen (Hola) (68°14'N., 14°39'E.) is formed between Austvagoya, on the W, and Lille Molla, on the E. Skjoldvaer, on the SE side of the passage and NW of Lille Molla, is a group of islets and rocks lying up to 1.5 miles off Lille Molla, N of Skrova. This group should be avoided.

Kvalbaken, a danger on the NW side of Holen, is marked by a light and lies about 2 miles ENE of Rodholmene.

Austnesfjorden (68°17'N., 14°43'E.) extends about 6 miles N from the inner end of Holen and is free from dangers for about 4 miles. Farther N there are several shoals, which are best seen on the chart. Heavy squalls are experienced in the fjord.

Oyhellesundet, the passage NE of Holen, separates Store Molla from Austvagoya; it is connected at its NE end with Raftsundet.

From Skrova, the NW side of Vestfjorden trends 16 miles ENE to **Rotvaer** (68°22'N., 15°56'E.), a group of islets and rocks lying about 1 mile SE of Hinnoya, and 3 miles W of the entrance to Ofotfjorden.

Several fjords indent this coast; the entire area is fronted by dangers which are best seen on the chart. Vessels enroute from Skrova to Ofotfjorden should steer along the SE side of Vestfjorden in this area.

Flovika (68°15'N., 14°57'E.), a deep body of water clear of dangers in the fairway, is formed between Store Molla, on the W side, and Arstein and Hinnoya, on the E. This passage leads from Vestfjorden to Raftsundet, about 7 miles NNW. The dangers off Arstein may best be seen on the chart.

Raftsundet (68°23'N., 15°05'E.) extends about 11 miles NNE from its junction with Oyhellesundet and Flovika, close N of Store Molla.



Skrova Harbor



Svolvær Harbor



Raftsundet Bridge from S



Brettesnes

Raftsundet is formed between Austvagoya and Hinnoya. It is narrow and comparatively deep and clear. The channel, which is used by coastal steamers and tourist vessels, is not difficult to navigate and is well-marked by aids. The channel will accommodate vessels drawing 7.3m and about 116m in length.

Raftsundet Bridge, a fixed bridge with a vertical clearance of 54.3m, spans Raftsundet about 0.7 mile SSW of the N entrance to the passage.

Tides—Currents.—Tidal currents in Raftsundet set S between half tides at full and rise; the N current is the reverse

of this. In Trangstraumen, the narrows between 3.5 and 5 miles S of the N entrance, the current has a velocity of 4 to 5 knots, but with a S gale the N current may attain a velocity of 6 or 7 knots. It should be noted that in Trangstraumen, the S current sets toward the E shore and the N current sets toward the W shore.

There is anchorage for large vessels with local knowledge, in the SE part of Raftsundet, in 20 to 42m, about 1 mile ENE of the N extremity of Store Molla. An overhead cable, with a vertical clearance of 55m, spans Raftsundet near its N entrance.

8.10 Oksfjorden, the next fjord E of Flovika, penetrates about 11 miles N into Hinnoya. Between its entrance and Vestfjorden lies an extensive area of islets and shoals, including the islet group **Risvaer** (68°15'N., 15°09'E.) and **Svellingen** (68°18'N., 15°18'E.); Within that area are channels and anchorages suitable only for those with local knowledge.

Oksfjorden is connected to Vestfjorden by a channel from Flovika, which passes close along the E side of Arstein, and by **Smitskjaerleien** (68°20'N., 15°25'E.), which passes S of the SE part of Hinnoya.

Oksfjorden can be navigated by large vessels for a distance of about 8 miles to the islet of Husjordoy.

Kanstadfjorden is entered between **Offersoy** (68°19'N., 15°37'E.), a small low-lying peninsula 4.5 miles E of Smitskjaerleien, and Rotvaer, 7 miles NE. It indents Hinnoya for a distance of about 10 miles.

Hokfjorden extends 2.5 miles N from the inner end of Kanstadfjorden; Indrefjorden is the continuation of Kanstadfjorden on the NE side. Erikstadfjorden, suitable only for small

boats, extends NW from Kanstadjorden NNE of its junction with Hokfjorden.

Rinnøyvåg (68°22'N., 15°46'E.), situated on the W side of Kanstadjorden, 4.5 miles NNE of Offersøy, has a berth at the timber quay, 23m long, with depths of 5.5 to 7.7m alongside.

Anchorage has been taken in Kanstadjorden, with good protection from N and W winds, in 48m, with the light on **Aspeneset** (68°25'N., 15°47'E.) bearing 345°, 1.4 miles distant.

Landegodefjorden and Vestfjorden

8.11 Because of the shallow channel in Grotoysundet, for about 40 miles N of Bodo, Indreleia is of little use to large vessels. This part of Indreleia merges into Vestfjorden through Breisundet; Indreleia proper does not resume until the vicinity of Lodingen, at the entrance to Tjeldsundet, is reached.

Landegodefjorden is formed between **Landegode** (67°25'N., 14°20'E.) and the mainland about 4 miles SE. It is encumbered by islets, reefs, and shoal areas, whose positions are best seen on the chart.

Winds—Weather.—The area between Bodo and Landegode is exposed to violent squalls, especially in winter. East winds, with strong and frequent gusts, are liable to blow off the mainland; NW winds are also unsteady with heavy squalls off the high peaks of Landegode.

Tides—Currents.—The tidal current in Landegodefjorden sets NE with the rising tide and SW with the falling tide.

Aspect.— **Landegode Light** (67°27'N., 14°23'E.) is shown from a tower, 29m in height, standing on the islet of Eggeløysa, close N of the N end of Landegode.

Tennholmen Light (67°18'N., 13°30'E.) is shown from a low tower on a building, 14m in height, standing on the largest islet of the group. There is a helicopter landing platform at the light.

Vessels proceeding from Saltfjorden to Landegodefjorden should steer to pass NW of Store Svartoksen and SE of **Hausen** (67°17'N., 14°12'E.), an isolated patch with depths of less than 5.5m, situated 1.5 miles NNW of Store Svartoksen.

The white sector of the light on Store Svartoksen, bearing astern, leads NW of Store Hjartøy and W of **Lopsholmen** (67°20'N., 14°24'E.), 2 miles NE of Store Hjartøy.

Vessels proceeding from Bodo to Landegodefjorden may proceed through Hjartøysundet, formed between Store Hjartøy and Lille Hjartøy, or around Hjartøysdragan and proceed in the white sector of the light on Store Svartoksen.

After the vessel has cleared Lopsholmen, they may steer in the white sector of **Bjornøy Light** (67°25'N., 14°26'E.).

In heavy weather, it may be preferable to pass 0.4 mile off Bjornøy then between Steinsgrunnen, a 20m patch 0.6 mile N of Bjornøy, and Mistgrunnen, a 19.8m patch, 0.75 mile NE.

From the vicinity of Bjornøy, the route continues NNW toward a position W of **Utgrunnen** (67°42'N., 14°17'E.), then N or NNE into Vestfjorden.

The white sector of the light on Bjornøy, bearing astern, leads W of **Ytre Skallen** (67°28'N., 14°25'E.), a 4.9m patch 3 miles NNW of the light, and E of Oyensve, 10.5 miles NNW, which usually breaks.

From the vicinity of Oyensve, the summit of **Lopsfellet** (67°19'N., 14°29'E.) in range with an isthmus on Landegode,

0.4 mile WNW of Bjornøy Light, bearing 167.5°, passes 0.4 mile W of Utgrunnen, and then into Vestfjorden.

Inner Fjords—Saltfjorden to Ofotfjorden

8.12 The fjords on the SE side of Vestfjorden, known as the coast of Salten, run in all directions and are frequently connected by low-lying marshy or lake filled depressions, so that the entire coast is a maze of intricate channels between islands and peninsulas.

In places, steep ranges of mountains, separated by valleys, lead away from the shores of the fjordens, which are broken and have several large, low, boggy peninsulas.

Some of the fjords penetrate so deeply they almost reach the Swedish border.

Indreleia diverges from the main route from Bodo to Vestfjorden off Lopsholmen, keeping to the E side of Landegodefjorden and continuing NE through Karlsoy fjorden. There are many below-water rocks and dangers which exist in Landegodefjorden and must be avoided. Karlsoy fjorden is deep and free from dangers in the fairway.

Mistfjorden lies E of Indreleia, about 6 miles ENE of Bjornøy. The fjord is surrounded by high, massive, and bare mountains.

Kvanholmen (67°27'N., 14°40'E.), marked by a light, is situated on the S side of the entrance to Mistfjorden. From its entrance, the fjord extends about 10 miles E, terminating in Nordfjorden.

Several shoal spots lie up to 0.5 mile W of Kvanholmen and a rock, awash, lies on the N side of Mistfjorden, 0.75 mile E of the island.

Vessels with local knowledge can anchor at the head of Nordfjorden, in depths of 29m, sand.

Karlsoy fjorden (67°31'N., 14°40'E.) is formed between Karlsoyvaer, on the NW, and the mainland, on the SE. The fairway leads NE to Folla.

Indreleia leads NNE from position 67°29'N, 14°35'E, passing through Karlsoy fjorden towards Helloyskjeret.

The white sector of the light on Bjornøy, bearing astern, leads into Karlsoy fjorden NW of the islets and dangers off the mainland; the white sector of the light on Helloyskjeret then leads toward the N entrance of the fjord. It is advisable to keep to the E side of this sector as the W sector passes close to Karlsoyvaer.

Kjerringøy (67°31'N., 14°46'E.) ([World Port Index No. 22270](#)) is located on the SE shore of Karlsoy fjorden. There is a wooden quay, 38m long, with depths of 3.2 to 5.2m, located at the port. A light beacon is shown on Kjerringøy.

Anchorage is available 137m SE of the beacon, in depths from 5 to 10m, sand and clay bottom.

8.13 Folla, a large fjord complex, is entered in the vicinity of Helloyskjeret, and is approached through Karlsoy fjorden or from W by passing N of **Slovaer** (67°36'N., 14°39'E.).

Abreast of **Hjartoya** (67°39'N., 15°05'E.), about 6 miles ENE of Helloyskjeret, Folla divides into two branches, each having several arms; Sorfolla extends about 20 miles SE and Nordfolla extends about 15 miles NE.

The W approach to Folla from Vestfjorden can be made by steering in the white sector of the light on Helloyskjeret,

passing S of **Skarholman** (67°39'N., 14°28'E.), 7.5 miles WNW of the light, then S of Breifallet, a 7.9m patch 3 miles ESE of Skarholman. This course will lead close N of Ytre Raholmen 1.75 miles SE of Breifallet. Then steer E into Folla to pass N of Helloyskjeret.

Oyensve (67°35'N., 14°17'E.), which breaks, are the farthest W of the dangers off-lying Karlsoyvaer, about 12 miles W of Helloyskjeret.

Nordfolla (67°45'N., 15°17'E.) leads NE from Folla. Its E continuations are known as Reinvikfjorden and Morsvikfjorden. Store Belgkjosen and Lille Belgkjosen have a common entrance off the N side of the fjord, 10.5 miles NE of Hjartoy. They are icebound in the winter. Vinkfjorden leads from the SE side of Nordfolla 6.5 miles NE of Hjartoy; Stavfjorden extends from its inner end.

The fjord is open toward the SW, with winds from the W and SW. East gales are most frequent in the winter.

In Nordfolla, the tidal currents usually flow outward, but in calm weather, if the tributary rivers are low, the current may set into the branches with the rising tide.

Anchorage may be taken off **Nordfold** (67°46'N., 15°14'E.), in depths of 14 to 18m, clay and sand. Anchorage is also available off Stavnes, 5 miles E of Nordfold, between two charted 6m patches. It is a well-used anchorage, but is exposed to SW winds.

Nordfolla may be entered by keeping the white sector of the light on **Helloyskjeret** (67°37'N., 14°47'E.), astern, which will lead between the dangers off Hjartoy and the NW shore. A mid-channel course may be steered to the head of the fjord.

8.14 Sorfolla (67°32'N., 15°16'E.) extends SE from the E end of Folla. Several smaller fjords extend SW, S, and NE from Sorfolla.

Eidekjosen and Navelsfjorden have a common entrance off the W side of the fjord, 4 miles within its entrance. **Nordre Oygardskjeret** (67°32'N., 15°08'E.) lies in the entrance.

Sjunkfjorden extends 5.25 miles SSW from its entrance, 3.5 miles SE of Nordre Oygardskjeret.

There are anchorages in Sjunkfjorden, sand and clay, 3 miles WSW and 4.5 miles SW from the light on the E entrance point.

Leirfjorden (67°32'N., 15°37'E.) extends about 11 miles NE from Sorfolla, 6.25 miles E of Sjunkfjorden. It appears to be free of charted dangers in the fairway.

Storvika (67°31'N., 15°36'E.) affords good anchorage, in clay and sand, on the S side of Leirfjorden, 2 miles within the entrance.

Lakseley (67°22'N., 15°36'E.) ([World Port Index No. 22295](#)) situated on the W side of Sorfolla, near its head, 8.5 miles S of the entrance to Leirfjorden, has a smelting works. There is a concrete quay at the factory, 96m long, with depths of 9.6 to 11.2m alongside.

Sorfolla is well marked by lights. The white sectors of these lights lead through the various channels clear of charted dangers.

Sagfjorden (67°38'N., 15°16'E.) is entered from Folla through Refsfjorden N of the island of Prestmasoy, and from Sorfolla through Masoysundet, E of the island.

Anchorage may be taken off the NE side of Prestmasoy, in 18 to 23m, sand, 1.5 miles SE of Mulneset, the N entrance



Courtesy of Kystriksyeien Reiseliv AS
Leirfjorden

point to Sagfjorden. There is also anchorage 2.5 miles E of the point, in 40m, sand.

There is an anchorage 6 miles E of Mulneset, off Sagfjorden, in 22 to 30m, sand and shingle.

8.15 Indreleia leads from the vicinity of Helloyskjeret, 3 miles NW across the outer part of Folla, then about 10 miles N across Brennvika and Andholmsfjorden, to the vicinity of **Sildskjeret** (67°48'N., 14°44'E.), in the SW approach to Grotoysundet.

Vessels may proceed from the vicinity of Helloyskjeret by keeping the white sector of that light, which will lead SW of **Kjopmannen** (67°39'N., 14°43'E.) and into the white sector of **Ola-Persoya Light** (67°40'N., 14°43'E.).

During W gales, breakers extend some distance W from Kjopmannen and should be given a wide berth.

From Kjopmannen, steer in the white sector of Ola-Persoya Light and enter Ytre Vettoysundet passing, E of the light. When entering Ytre Vettoysundet, care is necessary to pass W of the rocks, awash, lying from about 0.1 mile SSE to 0.2 mile ESE of the light. Care must be used to pass E of the danger 0.3 mile N of Ola-Persoya Light.

Brennvika indents the coast about 4 miles from a position about 2 miles NNE of Ola-Persoya Light.

Leinesfjorden, next N of Brennvika, is an E continuation of Andholmfjorden. It terminates in two branches, Saursfjorden, on the N, and Botnfjorden, on the S. An entrance channel off Leines is well marked, but is suitable for use only with good local knowledge. The many encumbrances may best be seen on the chart.

From the vicinity of Ola-Persoya Light, the route of Indreleia leads across Brennvika to a position W of **Skjaholmen** (67°43'N., 14°43'E.). The green sector of the light, bearing between 167° and 178°, astern, leads W of this islet.

When W of Skjaholmen, steer toward the rear range light on Steinsholmen, 1.5 miles N of Skjalholmen, passing E of the foul ground 0.5 mile SSW of the range light, then W of the danger which extends 183m SSW from **Steinsholmen** (67°44'N., 14°43'E.).

From Steinsholmen, the range lights in line 186°, astern, indicate the fairway of Indreleia as it crosses the inner part of Andholmfjorden. This track leads between the light marking

Leiskjer, 1.75 miles N, and foul ground marked by a perch 183m W of the light, then NNE to pass E of Sildskjeret, 2.5 miles farther N. There are many dangers in this area which are best seen on the chart.

8.16 Grotoysundet (67°50'N., 14°46'E.) lies between Grotoya and the mainland E. The narrow, shallow channel through it connects the inner part of Andholmfjorden with Breisundet 3.5 miles NNW, and Vestfjorden.

Local knowledge is necessary in Grotoysundet and the use of a local pilot is recommended for the largest vessels that can use the channel. The channel is 30m wide, with a depth of 4.9m.

Tides—Currents.—The tidal currents in Grotoysundet are strong. The tide levels at **Grotoy** (67°50'N., 14°46'E.) on the NE end of Grotoya are 3m at MHWS and 0.5m at MLWS.

Depth gauges are placed at **Hartvikgrunnen Light** (67°49.2'N., 14°44.2'E.), for northbound vessels and at **Skaten Light** (67°50.6'N., 14°47.4'E.), for southbound vessels.

From Skaten Light, three channels lead NW into **Breisundet** (67°54'N., 14°43'E.). The W channel is the safest and deepest, but it is tortuous. Breisundet is about 3 miles distant from Skaten Light. Vestfjorden is entered from this pass.

Skotsfjorden is entered about 1 mile NE of Skaten Light through a rock-encumbered entrance, with a channel about 46m wide between the reefs on either side. This fjord should be entered only by vessels with local knowledge.

Anchorage is available at the head of the fjord, in depths from 9 to 22m, and in the bay close W in depths, of 11 to 17m.

8.17 Flagsundet (67°55'N., 15°00'E.) leads S of Engeloja and is entered from Indreleia or from the W through Breisundet. Skitenfjorden is its E continuation.

A bridge, with a vertical clearance of 25m and a navigable width of 40m, spans the narrows between **Alstadoya** (67°54'N., 15°11'E.) and Bogoya, 183m S.

The E end of Skitenfjorden opens into Sagfjorden.

Tides—Currents.—In Flagsundet, the tidal current flows in the direction of the channel. Strong squalls sometimes blow down from the mountains and are particularly severe about 5 miles within the W entrance and near Bogoya. The current is strongest at Vikskjer. Flagsundet is limited to vessels with local knowledge.

Skagstadsundet (67°58'N., 15°10'E.) is entered from Vestfjorden between **Foroya** (68°01'N., 15°07'E.) and Orneset, 1.25 miles ESE, and leads 8 miles S and E between Engeloja and Lundoya to the junction with Skitenfjorden, Okssundet, and Sagfjorden.

Dangers are charted in the entrance E of Foroya and near the center of the fairway about 5 miles within the entrance.

Okssundet (68°00'N., 15°18'E.) is entered from Vestfjorden between **Oksnesodden** (68°03'N., 15°14'E.) and Dalshamaren, a point 1.5 miles NE. It leads 7 miles SSE between Lundoya and Hamaroy to the junction with Skagstadsundet and Sagfjorden.

There is usually a N flow of current on the E side of the sound and a S flow on the W side of the sound.

Squalls from the mountains can occur during S winds.

The white sector of the light on Oksnesodden through N indicates clear water in the approach from Vestfjorden.

Okssundet is deep; however, a mid-channel course will lead clear of any coastal dangers.

8.18 Sagfjorden (67°58'N., 15°36'E.) is entered between **Bolsoygalten** (67°57'N., 15°24'E.), at the S extremity of Husoyvaer, and Skranstad, 2 miles SE. It extends about 13 miles E and SE along the S side of Husoya and Finnoya. The fjord is deep and free from dangers in the fairway.

Anchorage at **Store Lagmansvika** (67°55'N., 15°53'E.), at the head of Sagfjorden on the E side, may be taken, in 15 to 17m, sand.

From Dalshamaren, the N entrance point of Okssundet, the NW coast of Hamaroy trends 7.5 miles NNE to **Selsoya** (68°09'N., 15°29'E.), then 3.75 miles ENE to **Eggloya** (68°11'N., 15°38'E.), which lies close off the Tranoya peninsula, the N extremity of Hamaroy.

Tranoy (68°11'N., 15°40'E.) ([World Port Index No. 22160](#)) consists of a cove on the E side of the peninsula. The timber quay is 74m long, with depths of 2 to 9m, and is situated in the NW corner of the cove.

A foul bay, 0.75 miles SSE of Tranoy, provides a good anchorage, in 18 to 40m, sand, sheltered from W, but is open to N and NE winds.

There is a pilot station located at Tranoy. Mariners are advised when approaching the pilot boarding place to pass well S of the lighted buoy located at 68°14'N., 15°36'E, which marks a shoal area.

A channel leads W of **Tannoya** (68°09'N., 15°48'E.) into a long inlet between Tranoya and the mainland 3 miles E.

Tannoysundet, W of Tannoya, leads S between Tannoya and Hamaroy. A 10m patch lies in the fairway off the W extremity of Tannoya. Local knowledge is required in the channel.

Presteid (68°05'N., 15°40'E.) lies on the W side of Presteidfjorden 3.5 miles SSW of Tannoysundet. This harbor is the calling place for Hamaroy, the principal village on the island. There is a timber quay, 26m long, with depths of 5.8 to 7.8m alongside. Anchorage may be taken, in 30 to 50m, clay, NW of Presteid.

8.19 Tysfjorden (68°06'N., 16°15'E.) is the name for a group of fjords which extends for about 30 miles SSE from a position 10.5 miles NE of Eggloysa. The fjords are deep and several rivers discharge into them.

The tidal currents usually set out of Tysfjorden, attaining a maximum velocity of about 3 knots.

An extensive reef lies between **Bremneset** (68°17'N., 16°09'E.), the NE entrance point to Tysfjorden, and Bavoya an island 2.75 miles NNW. Storboen lies at the W end of this reef.

Bremnesskjaer (68°17'N., 16°08'E.), a drying shoal, lies on the NE side of the entrance, 0.75 mile S of Bremneset.

Foul ground extends about 0.4 mile offshore off the SW entrance to Tysfjorden. Sandvikskallen, with a charted depth of 4.9m, lies 1.75 miles NW of the light at Korsnes.

The white sector of various lights lead from Vestfjorden toward and into Tysfjorden.

Korsnes (68°15'N., 16°04'E.) ([World Port Index No. 22140](#)) lies close within the entrance of Tysfjorden, on the SW side. It is protected from the N but a sea is raised in it by a SE gale which is known locally as a Tysfjorden Wind.

There is an angled timber quay, with two berths 25 and 20m long, with depths of 3.9 to 7.6m and 2.3 to 3.9m, respectively, alongside.

Bogvika (68°14'N., 16°05'E.) opens off the W side of Tysfjorden, 1.75 miles S of Korsnes. There is good anchorage, in depths of 14 to 21m, clay, in Bogvika.

Bessfjorden is entered off the W side of Tysfjorden, 1.5 miles SSE of Bogvika, between **Bessfjordneset** (68°12'N., 16°07'E.) and Klubben, 0.4 mile SSW.

There is anchorage, in 12.8 to 14.6m, clay, 0.9 mile SW of Bessfjordneset, and in 20 to 22m, 1 mile SSW of the point, for vessels with local knowledge.

Drag (68°03'N., 16°05'E.) ([World Port Index No. 22120](#)) is a natural coastal harbor which opens off the W side of Tysfjorden, 8.25 miles S of Bessfjordneset. There is an angled timber quay in Drag, with a berth 23m long, with depths of 4.6 to 4.9m alongside. The timber quays at the felspar quarry has depths of up to 6.5m alongside.

There is an anchorage W of the light, with mooring rings, in clay and sand. A slight swell sets in with N winds.

8.20 Hellemofjorden is entered from Tysfjorden and extends about 13 miles SSE from its entrance between **Hellandneset** (68°02'N., 16°09'E.), 2.25 miles SE of Drag and Hestneset 1 mile ESE. An overhead cable, with a vertical clearance of 38m, spans the fjord at Hestneset.

A similar cable, with a vertical clearance of 240m, spans the fjord 9 miles within the entrance.

The fjord is deep throughout, but on its E side, about 2 miles within Hestneset, foul ground, with a charted depth of 1.8m, extends 0.4 mile offshore. An islet lies about 0.3 mile off the E shore 6 miles farther S, reducing the fairway to a width of 0.45 mile.

Skrovkjosen (68°15'N., 16°19'E.), a bay on the NE side of Tysfjorden, is deep and free from dangers. Its N entrance point, Solvneset, lies about 4 miles SE of the E entrance point of Tysfjorden. Brennsoyklubben, the S entrance point of the bay, lies 0.9 mile SSE of Solvneset.

Anchorage.—Anchorage with mooring rings, may be taken, in 40m, clay and sand, off **Ulvik** in the SE part of Skrovkjosen.

Anchorage may be taken, in 20m, off Eidbukta, in the N part of Skrovkjosen, 1.5 miles N of Ulvik. Local knowledge is required.

Haukoyfjorden opens off the E side of Tysfjorden, about 3 miles SE of Skrovkjosen. It is entered between **Indre Skarberghneset** (68°13'N., 16°12'E.) and Skjerneset, 4 miles SSE. The fjord is deep and clear of dangers, however, Haukoygrunnen, with a charted depth of 2.5m, lies in the entrance 1.25 miles NNW of Skjerneset.

The inner end of the fjord divides into the N and S arms, namely, Steffjorden and Tommerasfjorden. From the latter arm, Fuglefjorden extends 2.25 miles SSE.

Steffjorden extends E and SE from the NE end of Haukoyfjorden. It is deep and free from dangers in the fairway, and the shores nearly everywhere are steep-to.

At **Haukoya** (68°12'N., 16°24'E.), on the S side of the entrance to Steffjorden, there is a berth at a stone and concrete quay 26m long, with depths of 9.4 to 9.7m alongside.

Anchorage is available off Haukoya as shown on the area charts.

8.21 Indre Tysfjorden is entered off **Kjopsvik** (68°06'N., 16°21'E.), 3.5 miles SSE of Skjerneset, and extends about 8 miles E. It is deep and free from dangers to a position about 1 mile from its head. An overhead cable, with a vertical clearance of 35m, spans the fjord 3 miles NE of Kjopsvik.

Hulloya, which rises to a height of 676m, lies on the S side of the entrance to Indre Tysfjorden, 1 mile from Kjopsvik. A cable, with a vertical clearance of 42m, spans the channel from Hulloya to a point on shore close W of Kjopsvik.

Hulloysundet, off the S side of Hulloya, is deep and free from dangers, except for the chain of rocks extending from **Hulloyneset** (68°03'N., 16°11'E.), the SW point of Hulloya, to Hulloynesgrunnen, 1 mile WNW. An overhead cable, with a vertical clearance of 38m, spans the sound.

Grunnfjorden, entered from Hulloysundet, W of **Kjerrklubben** (68°02'N., 16°19'E.), is free from dangers in the fairway. It extends 8 miles SSE.

Kjerrvika (68°01'N., 16°20'E.), a cove situated on the E side of Grunnfjorden, 1.5 miles S of Kjerrklubben, is the site of a concrete quay 16m long, with depths of 5.5 to 8.5m alongside. The fjord is generally free from ice.

Mannfjorden lies E of Grunnfjorden, from which it is separated by a peninsula 2 miles wide. There are no dangers in the fairway of the fjord which penetrates 5.5 miles SE. An overhead cable, with a vertical clearance of 65m, spans the fjord 4 miles within the entrance.

Multind (68°00'N., 16°30'E.) is a conspicuous dome-shaped summit, 853m high, situated on the E side of Mannfjorden 4.5 miles SE of Kjerrklubben.

There is anchorage at the head of Mannfjorden in a cove on the N side, clear of a cable.

Ofofjorden

8.22 Ofofjorden Sis, entered between Baroya and **Tjeldodden** (68°23'N., 16°08'E.), 1.75 miles N. Its branches extend about 40 miles E to within 5 miles of the Swedish border.

Narvik, the most important port on the fjord, is situated 30 miles within the entrance. The prevailing winds are NE in the winter and W in the summer.

The current in Ofofjorden nearly always flows out, and it may be strong during gales, especially along the land.

There is usually an outflow of current from the branch fjords into Ofofjorden, which can be strong and dangerous, particularly at the mouths of the fjords during the melting of ice in the spring.

A mid-channel course will lead from the vicinity of Baroya to **Hammesholmen** (68°25'N., 16°35'E.), 11.5 miles ENE. The white sector of the light on Baroya, astern, will lead clear of the dangers.

Efjorden is entered from Ofofjorden by a narrow channel E of **Baroya** (68°21'N., 16°07'E.) and extends 17 miles SE. The fjord may also be entered from Vestfjorden by boat channels S of Baroya. The entrance channels are encumbered with shoals and are difficult to enter. No attempt to enter should be made without good local knowledge.

Ramsundet (68°29'N., 16°31'E.) is entered through Breivika, off the N side of Ofofjorden, 8.25 miles ENE of Tjeldodden. This channel leads about 6 miles N to join Indreleia in Tjeldsundet.

From Hamnesholmen, the fairway of Ofotfjorden trends ENE about 6 miles to the vicinity of **Lilandsgrunnen** (68°27'N., 16°50'E.). It then continues E for about 11 miles to Narvik.

Lilandsgrunnen, with a least charted depth of 2m, lies near mid-channel about 1 miles off the N shore.

Skjomgrunnen (68°25'N., 17°13'E.), a rocky shoal with a depth of 5m, lies on the S side of the fairway, 9 miles ESE of Lilandsgrunnen. From a position 0.3 mile SE of Skjomgrunnen, a bank extends SE to the shore, 1 mile distant.

An ammunition dump is charted in the fjord; it is centered about 1 mile SSE of the beacon on Lilandsgrunnen.

8.23 Kjeldebotn (68°25'N., 16°41'E.), a cove, opens off the S side of Ofotfjorden 2 miles ESE of the light on Hamnesholmen.

Anchorage, in a depth of 19m, clay and sand, may be taken in the SE part of the cove. There is a timber quay on the E shore with a berth, 28m long, having depths of 6.2 to 7m alongside.

Ballangen (68°22'N., 16°55'E.), an inlet, opens off the S side of Ofotfjorden, 6 miles ESE of Kjeldebotn. The inlet extends 4.5 miles SW. Little Ballangen lies near its head.

Dangers lie on both sides of the entrance to Ballangen, but it may be entered in the white sectors of the lights, and by using the lights, in range 236°, at Little Ballangen.

Little Ballangen (68°20'N., 16°51'E.) ([World Port Index No. 22050](#)) has two quays, 29 and 13m long, with depths of 3.5 to 6.2m and from 4.5 to 6m alongside, respectively. Anchorage may be taken off the quays, in about 10 to 22m, clay.

Bogen, an inlet, opens off the N side of Ofotfjorden, 3 miles ENE of Lilandsgrunnen. Skogoya lies on the W side of Bogen; two smaller inlets lie off its SE and S extremities. Liland lies near the W entrance of Bogen, off the S end of Skogoya; Bogen, a village, lies at the head of the inlet.

The white sector of **Liland Light** (68°28'N., 16°55'E.) leads from Ofotfjorden into the entrance to Bogen. The port has a timber quay, 100m long, with 11.6m alongside. There is a total length of 77m of quay at the industrial works, with depths of 4.3 to 6.6m alongside.

Bogen Nato Jetty is located below **Slettebakken Light** (68°31'N., 16°58'E.). The jetty also has a concrete vehicle ramp.

The dangers in Bogen are numerous and may best be seen on the chart.

8.24 Liland (68°29'N., 16°53'E.) ([World Port Index No. 22010](#)) is situated near the W entrance point of Bogen. The entrance leads N of Lilandsgrunnen and W of the islet lying off the S extremity of Skogoya. Foul ground extends about 0.3 mile ESE from a position on shore S of Liland.

There is a berth at the end of a timber jetty, 30m long, with depths of 4.6 to 6.7m on the E side and depths of 2.6 to 6.7m on the inside.

Skjomen is entered from Ofotfjorden between **Rosaneset** (68°24'N., 17°12'E.) and Einbaerneset, 1.25 miles E, about 7 miles SE of Bogen.

The fjord, about 13 miles long, is deep and surrounded by high steep mountains. The innermost part of the fjord is magnificent, with high peaks covered a good distance upward with a lush deciduous forest.

During some winters, the ice conditions may obstruct traffic severely.

An overhead cable and a bridge span Skjomen, 1.5 miles within the entrance. Each has a vertical clearance of 35m. The navigable width under the bridge is 150m.

Sorskjomen (68°12'N., 17°19'E.) is situated at the head of the fjord. There is a quay at Hallarvika, close NW, 20m long, with 5m alongside. Care is necessary to avoid the extensive drying bank at the head of the fjord.

Narvik (68°26'N., 17°25'E.)

[World Port Index No. 22030](#)

8.25 Narvik is situated on the E side of Narvikbukten, at the entrance to Beisfjorden, 3.75 miles ENE of Skjomen. The harbor is a natural land-locked basin, almost completely surrounded, and sheltered by high ground.

The port lies about 150 miles from the open sea. Commercial shipping traffic is heavy in winter, when the Gulf of Bothnia is ice-bound. Swedish ore is exported through the port.

Winds—Weather.—The "Beisfjorden Wind," which occasionally blows from SE, can raise a considerable sea; otherwise the wind is usually light. The harbor is always ice-free.

Tides—Currents.—Mean tides rise 3.2m at springs and 2.4m at neaps. During May and June, there is a constant NW set out of Beisfjorden, which is estimated to reach 4 to 5 knots during the outgoing tidal current. The direction of the current in the harbor is variable and may cause vessels at anchor to swing in different directions.

Depths—Limitations.—The deepwater Fagernes Quay is located in the SE part of the harbor. It is 280m long, with a depth of 15m alongside.

There is about 1,000m of quayage within the harbor, including berths for coastal tankers, in addition to the four ore berths described below.

Ore Berth No. 3 and Ore Berth No. 4 lie on the SW and NE sides, respectively, of a concrete pier located in the NE part of the harbor. They are both 214m long, with depths of 13.5m alongside. Ore Berth No. 3 can handle vessels up to about 110,000 dwt and 200m in length. Ore Berth No. 4 can handle vessels up to 45,000 dwt and 175m in length.

Ore Berth No. 5 is a concrete caisson berth lying parallel to the shore in the N part of the harbor. It is 208m long, with a depth of 27.5m alongside. Vessels of any length up to about 350,000 dwt can be handled.

Apatite Berth No. 6 is located between Ore Berth No. 5 and the shore. It has a depth of 12m alongside and can handle vessels up to 10,000 dwt.

It was reported that the largest vessel accommodated in the harbor was 204,200 dwt, with a draft of 14.3m.

Pilotage.—Pilotage through Ofotfjorden is compulsory. The pilot embarks at Tranoy. Harbor pilots are available at Narvik and will board and assist during berthing.

Anchorage.—Narvikbukten affords excellent anchorage in any part of the bay, in depths of 18 to 29m. The pilot will advise on the selection of berths.

Caution.—Several wrecks lie in Narvikbukten and may best be seen on the chart.

A seaplane operating area lies in Narvikbukten and may best be seen on the chart.

8.26 Beisfjorden (68°24'N., 17°30'E.) is entered off Fagernes. It is spanned by a movable bridge, with a vertical clearance of 6m and a navigable width of 11m. The bridge can only be opened for passage at HW slack and LW slack. Passage under the closed bridge at other times must always be made with the vessel stemming the current. Passage speed must be no greater than steerage-way.

Signals for the bridge are, as follows:

1. Green light—bridge open.
2. Red light—bridge closed.

A water pipeline has been laid across the approach to Beisfjorden. Warning signs are posted on both sides of the passage. Ships must anchor to stay clear of the line between the two warning signs.

Herjangsfjorden (68°30'N., 17°27'E.) is the NE continuation of Ofotfjorden N of Narvik. The fjord is deep and clear of dangers except on the SE shore, which is fringed by a reef that extends 0.5 mile offshore in places. Skolten, a rocky patch with a depth of 14.9m, lies in mid-channel.

Hamnvik (68°32'N., 17°34'E.), situated near the head of Herjangsfjorden, on its E side, has a quay 60m long, with depths from 7.4 to 10.6m alongside.

Anchorage is available for small boats close S of the quay, clay bottom, with mooring rings.

Rombaken (68°28'N., 17°36'E.) extends 5 miles E from its entrance S of Oydjordneset. Rombaksbotn, the inner part of the fjord, extends 4.5 miles farther in an ESE direction.

Straumen (68°26'N., 17°42'E.), the narrows between Rombaken and Rombaksbotn, is spanned by a bridge with a vertical clearance of 40m. The passage is restricted to a width of 183m by a reef which extends from the N side.

Rotvaer to Harstad

8.27 From Vestfjorden, the S approach to Harstad lead, in a general N direction, through Tjeldsundet and Vagsfjorden, about 33 miles distant. Sandtorgstraumen, 16 miles NE of Rotvaer, has a least charted depth of 7.9m in the fairway.

The winds in Tjeldsundet, to a large degree, follow the direction of the sound, but are often unsteady and unreliable. Winds which set S in the sound, will, in the W part of Sandtorgstraumen, slack and back around. South winds are usually the most troublesome.

In Vagsfjorden, there can be E storms in the fjord on the mainland, whereas there are W winds in the entrances from the sea.

Lodingen (68°25'N., 16°00'E.) ([World Port Index No. 21950](#)), 3 miles NNE of the light on Rotvaer, lies on the W side of the S entrance to Tjeldsundet. This is a sheltered harbor with alongside depths of up to 9.4m. A pilot is available at Skraven for the entrance to Lodingen. Lodingen, the largest pilot station

in Norway, has a continuous watch and is equipped with VHF radio and radar.

Pilots to Lofoten and Vesterålen are ordered through Lodingen pilot station. Anchorage may be taken in the harbor, in a depth of 11.9 to 14.6m, good holding ground.

Care must be taken to anchor clear of the fairway leading to the quay. A sea may set into the anchorage when the wind is E of N.

Tjeldsundet (68°31'N., 16°10'E.), between Hinnoya on the W and Tjeldoya and the mainland on the E, is the continuation of Indreleia from Vestfjorden to the N ports. It is narrow in several places; the channel is rendered intricate by below water rocks and shoals. The currents are strong and the numerous whirls and eddies necessitate care.

Kongsviktind (68°35'N., 16°16'E.), a mountain, 988m high, 10 miles NNE of Lodingen, provides a good mark in the S entrance to the sound.

The dangers in Tjeldsundet may best be seen on the chart. A bridge, with a vertical clearance of 41m and a horizontal clearance of 90m, spans the fairway near **Langkvitneset** (68°38'N., 16°35'E.), 7.75 miles NE of Kongsviktind.

It is reported that in the narrows N of Tjeldoya, the channel will only accommodate one large vessel at a time between the buoys on either side.

Tjeldsundet is well marked by lights and other navigational aids. The white sectors of the various lights will lead through the fairway, but caution must be exercised to alter course to pass the lights at a safe distance. It must be noted that some of the white sectors will lead into shoal water.

Anchorage may be taken, in 14.6 to 22m, in the W side of Tjeldsundet, about 1 mile NW of **Nordstandskjaer** (68°30'N., 16°09'E.). Local knowledge is necessary.

Kongsvika, 1.5 miles SSW of Kongsviktind, affords anchorage, in 18.3m, to vessels with local knowledge.

Vessels waiting for the tide before proceeding through Sandtorgstraumen, may anchor, as indicated on the chart, in 18.3m or in 14.6m, 0.4 or about 0.6 mile NE, respectively, from **Hol** (68°33'N., 16°24'E.).

The N entrance to Ramsundet lies S of **Kalvoya** (68°33'N., 16°27'E.), which lies S of the W entrance to Sandtorgstraumen.

8.28 Vagsfjorden, the continuation N of Indreleia from the N end of Tjeldsundet, is a large, almost landlocked basin. The W shore of the fjord is formed by the NE side of Hinnoya and the E side of Grytoya. The N shore of the fjord is formed by Senja; the SE shore is formed by the islands of Rolla and Andorja, lying off the mainland.

Caution.—A firing area has been established in Vagfjorden, extending from the SW entrance to a line between Klubben and Engenes.

A submarine cable runs NE across the entrance to Harstad and may best be seen on the chart.

Harstad lies on the E coast of Hinnoya, which is fringed with islets and shoals to a distance of 2.5 miles. These dangers must be passed to the E.

The tidal currents in Vagsfjorden usually set N with the falling tide and S with the rising tide. They may attain a velocity of 1 knot at springs.

Langgrunnen (68°42'N., 16°38'E.), with a charted depth of 2.1m, lies on the W side of Indreleia, 2 miles N of the light on Grasholmen. A reef, with a charted depth of 2.2m, lies 0.25 mile E of Langgrunnen.

Store Rogla (68°44'N., 16°39'E.), 95m high, lies on the W side of the fairway, 3 miles N of Grasholmen. Lille Rogla lies 0.5 mile farther NNE.

Storholmen (68°43'N., 16°46'E.), marked by a light, lies on the E side of Indreleia, about 1 mile off the SW extremity of Rolla and 2.25 miles E of Store Rogla. Foul ground extends 0.5 mile E of Storholmen and just over 0.5 mile SW from Rolla.

In the S approach to Harstad, which lies 3.75 miles NW of Lille Rogla, are **Arnoya** (68°46'N., 16°37'E.), 1.75 miles NW of Lille Rogla, Laukholmen, and Tjuvholmen.

Smaholmrunn, a rocky shoal with a depth of 5.8m, and Lysbotn, with a depth of 0.3m, lie 0.6 mile and 1.0 mile NNW, respectively, from Lille Rogla.

The many dangers which front Harstadhamn from Tjuvholmen N to **Roykenesboen** (68°51'N., 16°39'E.), 2.25 miles NNE, may best be seen on the chart.

Vessels approaching Harstad from the S, after passing Lille Rogla, should shape a course toward **Stangnesodden** (68°48'N., 16°37'E.), steering in the white sector of the light on that point to within 0.3 mile of the light. A depth of 15m is charted in this area. The track then leads E of the light structure, where course can be steered W into Harstadhamn.

Vessels approaching Harstad from the E should steer on the church at Trondenes bearing 265°, passing S of Magoya Light.

This track leads over a least charted depth of 10m. When the vessel is about 0.3 mile WSW from the light, steer a course into the harbor to the assigned berth.

Vessels from the N approaching Harstad, after having cleared the dangers at the SE end of Toppsundet, should steer in the white sector of Magoya Light to a distance of about 0.3 mile from the light; course of 212° will then lead into the harbor.

Harstad (68°48'N., 16°33'E.)

World Port Index No. 21610

8.29 Harstad is a coastal natural harbor situated on the NE coast of Hinnoya. It is the second-largest town in N Norway. It offers anchorage and piers for large vessels. The port is also a base for oil exploration support.

Winds—Weather.—The harbor is well-sheltered and is generally unaffected by winds, except those from the NE, which give rise to considerable swell in Gangsasbotn. It is ice free. The prevailing wind is S. There is no darkness from May 3 to August 11 and the sun does not rise from December 2 to January 11.

Tides—Currents.—The tidal range in Harstad is from 2.2m MHWS to 0.3m MLWS.

Depths—Limitations.—Large vessels may enter the harbor, which has depths up to 151m. There is a total of about 1,880m of quayage in the harbor.

The quays have accommodations for vessels up to 183m in length and a draft of 10.7m. There are two tanker berths, 240 and 171m in length, which will accommodate vessels with drafts of 10 and 9.1m, respectively.

A new quay is reported to have been constructed about 1 mile SSW of Stangnessoden, outside the harbor area. It is protected from the E by Arnoya and Laukholmen. The quay is 240m long, with a depth of 10m alongside. It is reported to have facilities for ro-ro and container vessels.

Aspect.—Trondenes Church, on the NW side of the harbor, 1.75 miles NNW of Stangnesodden, and the school 0.3 mile SSW of the church, are conspicuous. The church, with a tall gray spire, 0.2 mile WSW of the Harbor Office, is a useful mark for entering the harbor.

Pilotage.—Pilotage is compulsory. Requests for pilots should be made to the pilot office at Lodingen. If the vessel is entering via Andenes, the vessel's ETA should be sent 12 hours in advance. If entering via Lodinge, the vessel's ETA should be sent 2 hours in advance. VHF channel 16 is used at Lodingen and Andenes.

Anchorage.—There is anchorage in Gangsasbotn, an inlet which extends about 1 mile S from Harstad. The depths in the anchorage are from 5 to 40m, sand and mud. There is an anchorage in Samabukta, in 30m, mud and shells.

Lofoten—Northwest and North Sides

8.30 From **Lofotodden** (67°50'N., 12°50'E.), the W coast of Moskenesoya trends about 18 miles NNE to Fuglehuk, a conspicuous hill, 562m high.

Bergsneset (68°07'N., 13°04'E.), the NW extremity of Moskenesoya, lies about 0.5 mile NNW of Fuglehuk.

This stretch of coast is fringed with an almost unbroken line of precipitous cliffs. It is fronted by a sand bank, with rocks and shoals extending up to 4 miles offshore. Beyond this bank, the depths increase rapidly.

From Bergsneset to Eggum, about 18 miles NE, the coast is formed by the islands of Flakstadoya and Vestvagoya. The coast of Moskenesoya, Flakstadoya, and Vestvagoya are heavily indented by bays, fjords, and straits. This stretch is fronted by a sand bank to a distance of 4 miles, with detached rocks and shoals. The NW coast of Vestvagoya, from **Skolneset** (68°15'N., 13°31'E.) to Eggum, 5.5 miles NE, presents a line of precipitous cliffs. The sea breaks along the entire coast during gales from between W and N.

Skiven (67°58'N., 12°56'E.), a mountain 850m high, is situated 0.5 mile inland, 9 miles NNE of Lofotodden. It is one of the principal landmarks on the coast. Other prominent landmarks are Napptind, on Flakstadoya, 8 miles ENE of Fuglehuk; Horntind lying 2.25 miles NW of Napptind; and Himmeltind, lying 5.25 miles NE of Horntind. Himmeltind is easily identified from the W, appearing as two peaks; from N three peaks are seen, with the one in the middle being the lowest and sharpest.

Vaggen, close inland, 2 miles SW of Himmeltind, is precipitous on its W side. From a position W of Eggum, the 430m peak close S will be distinctly seen.

Langeskallen (67°57'N., 12°43'E.), an isolated depth of 18.9m, lies 4 miles offshore, 7 miles NNW of Lofotodden. Haraldskallen, with a charted depth of 27m, lies 3.5 miles NNW of Bergsneset. These two dangers are the farthest seaward along this coast. The coast should be avoided.

Tides—Currents.—The tidal currents in the vicinity of Bergsneset usually set NE with the rising tide and SW on the falling tide.

From Lofotodden to Bergsneset, there are no reported safe harbors.

Hornneset (68°10'N., 13°20'E.), the NW extremity of Flakstadøya, lies 6.5 miles NE of Bergsneset. Skarvholman, marked by a light, lies about 5 miles WNW of the point. It is surrounded by foul ground to a distance of 0.25 mile.

An isolated rock is charted 0.5 mile N of the light. The many shoal patches in this area are best seen on the chart.

The harbor of Ramberg lies between the NE side of Moskenesøya and the W side of Flakstadøya. It is the principal village in Flakstadøya. A dredged channel, with a depth of 4m, leads to the harbor area, which has a depth of 3.4m. The public quay is 42m long and has depths of 2.5 to 3.5m alongside.

During onshore gales and heavy seas, breakers form N and NW of **Busholmen** (68°07'N., 13°14'E.). Hornneset lies 4.25 miles NNE of Jusholmen.

Anchorage.—Anchorage may be taken off the harbor of **Ramberg** (68°05'N., 13°14'E.), in 10m, hard mud.

8.31 Eggum (68°19'N., 13°41'E.), the N extremity of Vestvagøya, lies 11.75 miles NNE of Hornneset.

The N entrance to Nappstraumen lies between Hornneset and Skolmneset, 6.25 miles NNE. Steinfjorden indents the coast between these two points.

Haesholman (68°14'N., 13°26'E.), a group of islets marked by a light, lies in Steinfjorden, 4.25 miles NNE of Hornneset. A bank with a least charted depth of 0.9m lies between the point and the islets.

Faldet (68°12'N., 13°15'E.), an isolated patch with a charted depth of 0.9m, lies 3 miles NW of Hornneset, in the W approach to Nappstraumen. There are other shoal patches charted in this area, which may best be seen on the chart.

Gapet (68°09'N., 13°28'E.), which leads S into Nappstraumen, is approached through the area of shoals and islets in Steinfjorden.

From seaward, the white sectors of the lights on **Hundholmen** (68°10'N., 13°27'E.) and Haesholman, lead to Gapet.

In bad weather, with heavy seas, it is inadvisable for those without local knowledge to attempt to enter Gapet.

From Eggum, the coast trends in a general ENE direction to the NE end of Austvagøya, about 35 miles distant. The entire coastal area is much indented by small bays and coves.

A considerable amount of foul ground lies off the N coasts of Vestvagøya, Gimsoya, and Austvagøya. This stretch of coast is one of the most dangerous parts of Lofoten.

From Eggum to **Hoven** (68°21'N., 14°06'E.), the NW extremity of Gimsoya, 8 miles ENE, there is a continuous line of breakers during gales from between W and N.

Gimsoystraumen (68°20'N., 14°19'E.) is formed between Gimsoya and the W side of Austvagøya. It gives access to Vestfjorden.

Hadselfjorden, separating the NE end of Lofoten from the S end of Vesterålen, is important for vessels seeking anchorage. It is practically the only place of refuge between Lofotodden and Andenes, the N extremity of Vesterålen. The W part of the fjord is deep, with no dangers in the fairway.

8.32 Hadselfjorden is approached between the coastal reef N of Gimsoya and the numerous dangers extending W from **Hadseløya** (68°33'N., 14°49'E.). A rocky shoal, with a depth of 6.7m, lies near mid-channel, 6 miles NNE of Hoven. The fairway passes S of this shoal.

Havboen (68°30'N., 14°28'E.), with a least depth of 0.6m, lies on the N side of the fairway, 5 miles SW of the W extremity of Hadseløya.

Vessels proceeding through Hadselfjorden should keep in mid-channel. When SE of Hadseløya, a vessel should steer NE, passing E of **Jaeva** (68°32'N., 15°04'E.), a small islet, then into the S entrance to Sortlandsundet.

Raftsundet, formed between Austvagøya and Hinnøya, is entered from the SE part of Hadselfjorden, via **Ingelsfjorden** (68°29'N., 15°14'E.).

Brottoya, a low island, lies in the entrance to Ingelsfjorden. It may be passed on the S side or on its NE side by steering in the white sectors of the appropriate lights.

Anchorage.—Secure anchorage may be taken off the E side of **Holdøya** (68°27'N., 14°54'E.), an islet 2.25 miles S of the SE extremity of Hadseløya. The anchorage is in 18.3m, mud, and may be approached from the N by passing between the reefs off Holdøya and off the islets to the E. There is a least charted depth of 11m over a width of 0.15 mile. The anchorage may also be approached from the NE. A submarine cable lies close E of the anchorage.

Sortlandsundet (68°42'N., 15°26'E.) lies between Langøya and Hinnøya. It is about 19 miles long from its junction with Hadselfjorden and the S end of Gavlfjorden, which leads N into the open sea. The channel is deep and clear of dangers in mid-channel. A bridge, with a vertical clearance of 30m, spans the channel in the narrows at Sortland.



Sortland

Local knowledge is required in all the harbors and anchorages off Sortlandsundet.

There is an isolated unmarked depth of 7.6m, 5 miles NE of Jaeva and a rock, awash, lies 1 mile farther NE.

Vessels entering the fairway have only to keep in mid-channel when passing up the sound and should pass E of a 7.9m patch lying near mid-channel about 3 miles SSW of Sortland.

8.33 Sortland (68°42'N., 15°25'E.) ([World Port Index No. 21670](#)) is the administrative center for the Sortland District. It is situated in Langoya. The berth at the packet boat quay is 150m long, with depths of 6.3 to 10m alongside. The larger of two bunkering quays is 48m long, with a depth of 5m alongside. Steamers call regularly at the port.

The fairway of Sortlandsundet continues N from Sortland, and narrows to about 0.4 mile between the shore banks about 1 mile N of the bridge.

A light marks a reef on the E side of the fairway, 2 miles N of the bridge; a shoal, with a depth of 1.8m, lies on the W side of the fairway, just over 1 mile NW of the light. From this shoal, the fairway N to the junction with Gavlfjorden is free of charted dangers.

Gavlfjorden (68°56'N., 15°22'E.), between Langoya and Andoya, connects with the open sea off Anda, which lies 14.5 miles NNW of its S entrance. The fjord is exposed N, and in bad weather the sea breaks over the whole area of shoals N of **Gisloya** (68°57'N., 15°16'E.).

The fairway of Gavlfjorden, which is clear of dangers in mid-channel, is about 1 mile wide between the shore banks 3 miles SE of Gisloya, and 1.25 miles wide in a position 3 miles NNE of the same islet. The fairway is well marked.

Vesteralen

8.34 Vesteralen, the island group NE of Lofoten, comprises Hadseloya, Langoya, Andoya, Hinnoya, and several smaller islands.

The waters off the W coast of Langoya from **Litloya** (68°35'N., 14°19'E.), at the entrance to Vesteralsfjorden, to Frugga, 15.5 miles NNE, are foul and difficult, to distances up to 4.5 miles from the shore. A shoal, with a charted depth of 1.8m lying 3 miles NW of the light on Litloya, is the farthest W of these dangers.

The coast of Langoya NNE of Frugga is indented by numerous fjords. The entrance to the various fjords are obstructed by islets, rocks, and shoals, and it is dangerous to pass over them even in moderately fine weather. Mariners are advised to avoid this coast.

Andoya (69°05'N., 15°45'E.) is the farthest N of the Vesteralen group. From a position on shore E of Anda to Andenes, a distance of 20 miles, the almost inaccessible coast of the island is fronted by a bank of white sand on which there are numerous rocks. The various mountain formations are separated by vast flat marsh areas; for this reason the mountain peaks will look like islands when seen from the sea.

The northernmost part of Andoya is low and flat. From E and W, Andoya Light will become visible before the rest of the landscape.

Gaukvaeroy (68°37'N., 14°21'E.), an island off the S end of Langoya, close N of Litloya, has sharp hills which are good

landmarks in clear weather. The hills on Langenes, at the N tip of Langoya, stand out distinctly against Andoya.

The hills on the island nearest the coast are generally high and conical; it is difficult to distinguish them from those E until quite near the coast.

The mountains of Andoya are easily identified as they rise abruptly from low, marshy lands of considerable extent and from a distance appear as detached rocky islets. They are visible up to 50 miles in clear weather.

8.35 Vesteralsfjorden (68°35'N., 14°32'E.), between Hadseloya and the W point of Langoya, is continued NE by Eidsfjorden and E by Langoyundet.

Eidsfjorden (68°40'N., 14°53'E.) indents Langoya to a distance of 14 miles, and is mostly deep and clear in the fairway. A depth of 3.4m lies at the W end of a shoal about 1 mile from the head of the fjord.

The innermost 2 miles of the fjord freezes in winter and all the side fjords are frozen up.

Langoyundet (68°35'N., 14°55'E.), between Hadseloya and Langoya, connects the inner end of Vesteralsfjorden with the SW end of Sortlandsundet.

Langoya is connected to Hadseloya through **Boroya** (68°34'N., 14°57'E.) by bridges. The vertical clearance across the E end of Langoyundet is 30m over a navigable width of 80m.

There is anchorage in Langoyundet for vessels of moderate size, in 44m, sand, SE of Dragneset, the N extremity of Hadseloya. A 6m rocky patch lies 0.2 mile E of Dragneset.

Boroysundet, off the W and S sides of Boroya, give access to Stokkmarknes.

Stokkmarknes (68°34'N., 14°55'E.) ([World Port Index No. 21690](#)) is a natural coastal harbor situated on Hadseloya abreast the W end of Boroya. The channels leading into the harbor are well marked.

The controlling depth is 5m in the W entrance and 5.5m in the E entrance. The deepest berth has a depth of 7.8m.

Boroysundet, E of Stokkmarknes, is spanned by a bridge with a vertical clearance of 15m.

Anda (69°04'N., 15°11'E.) lies 2.5 miles N of the N end of Langoya. The islet is marked by a light equipped with a racon. Flesan, a rocky patch with a least charted depth of 1.8m, lies 2 miles N of Anda and Brakan, an isolated patch with a least charted depth of 2.7m, lies 2.25 miles NNE of the islet.

Vessels approaching Gavlfjorden from the N should steer to pass E of Brakan.

Foul ground extends 2.5 miles N from the N end of Andoya, about 26 miles NNE of Anda.

Bjerka (69°24'N., 16°08'E.), an isolated patch with a depth of 8.5m, lies 4.25 miles NNE of Andoya. It is the farthest N of the dangers lying off the island. Nordhavboan, an isolated shoal patch with a depth of 5.8m, lies about 1 mile ESE of Bjerka. There are other patches with similar depths charted in the area.

Andenes (69°20'N., 16°08'E.) ([World Port Index No. 21660](#)), a town situated at the N extremity of Andoya, is the district administrative center. The harbor, which is on the NE side of the town and protected by four large mole installations, is filled with shoals and skerries.

There is a berth alongside the military quay, 62m long, with depths of up to 6.3m alongside. The harbor is mostly used by fishing vessels.

Andenes Light is shown from a prominent tower, 40m in height.

Anchorage.—A harbor pilot is available. Coast pilots can be provided but must be ordered from **Lodingen Pilot Station** (68°25'N., 16°00'E.).

Pilots should be ordered 12 hours in advance and board in position 69°19.5'N., 16°13.5'E.

Moderate size vessels may anchor about 0.15 mile ESE of the E head of the NE detached mole or in the entrance to the inner harbor. A prohibited anchorage area lies adjacent to the coast close SE of the harbor and may best be seen on the chart.

It is reported that a church spire and a microwave tower, both conspicuous, stand about 1 and 2 miles, respectively, SE of Andenes Light.

Bleik (69°16'N., 15°58'E.) is a small fishing harbor, protected by moles, lying about 5 miles SW of Andenes. A range marks the entrance. It is reported that a conspicuous radio tower stands about 2 miles ESE of Bleik.

8.36 Andfjorden (69°00'N., 16°03'E.), a large inlet entered between the E side of Andoya and the W side of Senja, 15.5 miles E, leads in a S direction for about 22 miles to the NW end of the island Grytoya; its continuations farther S are known as Kvaefjorden and Gullefjorden.

At Grytoya, Toppsundet, formed between Grytoya and Hinnoya, leads SE into Vagsfjorden and Indreleia.

Tides—Currents.—Tidal currents in Andfjorden are not very strong and are usually governed by the wind, but occasionally the N current sets toward the E side of the fjord and the S sets toward the W side.

In Toppsundet, the tidal currents usually set E with the rising tide and W with the falling tide, but with E and S winds they often set constantly W, and with W and N winds they set constantly E.

Caution.—Firing and bombing practice areas are established in the N entrance to Andfjorden. Firing areas are also established in Andfjorden between Leikneset and Meloyvaer, extending seaward from Steinvaer, and between Saurabogen and Meloyvaer, extending S to the N entrances of Risoy Sund and Toppsundet..

On the E side of the fjord are several groups of low islands surrounded by rocks and shoals. **Holmenvaer** (69°18'N., 16°45'E.), 14 miles ESE of Andenes, is the farthest N of these groups. The Steinavaer group lies 8 miles SSW of Holmenvaer and the Meloyvaer group lies 6 miles farther SSW.

Myrboen (69°12'N., 16°30'E.), an isolated rocky shoal with a least charted depth of 6.7m, lies at the W end of Steinavaer.

Froholman (69°04'N., 16°19'E.), a group of rocks and islets, lies 4 miles NNE of Grytoya. A rock at the S end of the group dries.

Grotavaer, a group of islets and rocks with a depth of 4.9m at its outer edge, lies close off the NW side of Grytoya.

Skarvhausbaen (68°57'N., 16°10'E.), a shoal patch with a depth of 4.9m, lies about 1.25 miles SSW of the 4.9m depth at Grotavaer.

The W side of Andfjorden is relatively free of dangers outside the shore bank.

Myrflesan (69°06'N., 16°04'E.), marked by a light, lies 2.25 miles E of Andoya, 14 miles SSW of Andenes. It dries in places. A 4m isolated depth lies 0.4 mile E of the light.

Kinnholmen, an island marked by a light, lies 1.5 miles E of Andoya, about 10 miles SSW of Myrflesan.

Risoyundet, formed between Andoya and Hinnoya, connects Gavlfjorden with Andfjorden. The NE end of the channel, which is much narrowed by shallow banks, is entered 4 miles NNW of Kinnholmen. A bridge, with a vertical clearance, of 32m spans Risoyundet.

8.37 Kvaefjorden (68°50'N., 16°00'E.), the S extension of Andfjorden, is relatively free of dangers in the fairway.

Mefjordingen (68°55'N., 16°05'E.), an isolated 12.8m shoal, lies in mid-channel 2.25 miles ESE of the light on Kinnholmen. Jabaen, with a charted depth of 8.8m, lies 2 miles ESE of Mefjordingen.

Kasfjorden opens off the E side of Kvaefjorden. Bygdesundet opens E 5 miles farther SW. Godfjorden extends SSW from Kvaefjorden; Gullefjorden is the S continuation of the main fjord. The inlets are free from dangers in mid-channel.

Ice will form at the heads of the branch fjords in the winter. Mariners are cautioned that ice movement may be strong when melting occurs in the spring.

Toppsundet (68°53'N., 16°23'E.), formed between Grytoya and Hinnoya, is the farthest S of the channels which lead between Andfjorden and Vagsfjorden. It is easy to navigate but heavy squalls may be expected.

Hestebaen (68°56'N., 16°16'E.), 0.35 mile N of Ytre Elgsnes, the SW entrance point at the W end of Toppsundet, is awash. Store Sandskjaer lies on the shore bank 0.45 mile offshore, 1.75 miles SSE of Hestebaen.

Vaskinnkviga (68°53'N., 16°26'E.), an above-water rock, lies 0.25 mile off Grytoya, about 3 miles ESE of Store Sandskjaer. The other dangers in Toppsundet are marked and are best seen on the chart.

Kjeoya (68°52'N., 16°34'E.), an islet marked by a light, lies in the SE entrance to Toppsundet. Shoals, with a depth of 7m at their outer end, extend 0.5 mile SW from the islet.

Krakeneset, a peninsula, lies 1 mile S of Kjeoya. A shoal, which partly dries, extends 0.2 mile N from the peninsula.

The island of Magoya, with a light at its SW end, lies close E of Krakeneset. Roykenesbaen, a drying shoal, lies 0.75 mile NNE of Magoya.

Vessels may transit Toppsundet by steering in the white sector of the various lights that mark the fairway.

Harstad to Malangen

8.38 Astafjorden (68°44'N., 17°00'E.), with its continuations of Salangen and Loksefjorden, extends in a general NE direction for a distance of about 25 miles. The fjord is entered from the SE side of Vagsfjorden and is formed on the NW side by the islands of Rolla and Andorja and by the mainland on the SE. It is deep and free from dangers in the fairway.

Several fjords branch from the SE side of Astafjorden. On the NW side are Bygden and Mjosundet, which are channels leading to Vagsfjorden. Mjosundet is narrow and there is usually a N setting, strong, tidal current, but it can be navigated by large vessels.

A spit, with a charted depth of 1.8m, extends 0.6 mile SW from the N side of the entrance to Astafjorden, and a reef, with charted depths of 3m, extends 0.3 mile off the S side of the entrance.

Anchorage.—There is good anchorage, in about 29m, clay, off the village of **Tovik** (68°41'N., 16°53'E.), 2 miles within the S entrance point of Astafjorden.

Grovfjorden (68°42'N., 17°05'E.) lies about 5 miles ENE of Tovik. This arm of Astafjorden is encumbered by rocks about 2 miles within the entrance. A bridge, with a vertical clearance of 4.9m, spans the fairway at the narrows about 3 miles within the entrance.

Gratangen (68°45'N., 17°18'E.), a winding arm which extends about 11 miles ESE from Astafjorden, is entered about 4 miles ENE of Grovfjorden. Its shores are steep and inaccessible, except at its inner end, and it is free from dangers in the fairway. A bridge, with a vertical clearance of 17m, spans the narrows about 8 miles within the entrance. Gratangsbotn is formed E of the bridge.

Bygden (68°50'N., 17°08'E.), formed between Rolla and Andorja, extends NNW from Astafjorden to Vagsfjorden, a distance of about 7 miles. The S entrance, 2.5 miles NNW of Gratangen, is encumbered with islets and rocks, which can best be seen on the chart.

There are several anchorages charted in Bygden, but they are for small vessels with local knowledge.

8.39 Lavangen (68°47'N., 17°37'E.) opens off the E side of Astafjorden, about 9 miles ENE of Bygden. The fjord extends about 9 miles SE and is free of dangers in the fairway.

The shores of the outer part of this inlet are precipitous, but are less bold toward the inner end, where alluvial banks of considerable extent have been deposited by a river, which flows into the head of the inlet.

In Lavangen, drift ice is sometimes encountered towards the head of the inlet.

Salangen (68°53'N., 17°34'E.), the continuation of Astafjorden is about 8 miles in length. Loksefjorden is the NE end of Salangen.

Sagfjorden, on the SE side of Salangen near its head, extends 4 miles in a SE direction. It is entered E of **Foroya** (68°54'N., 17°41'E.).

For the most part these fjords are clear and deep. The shoals, which may be dangerous to shipping, are marked. An isolated rock, with a depth of 5m, lies 0.6 mile SW of Foroya.

8.40 Salangsverket (68°55'N., 17°44'E.) ([World Port Index No. 21495](#)) is a natural coastal harbor situated on the E side of the N entrance point to Sagfjorden, 0.75 mile ENE of Foroya. There is a concrete quay, 72m long, with depths of 7.7 to 9.2m alongside. Vessels can anchor, in a depth of 10m, stones, between the quay and an islet 0.25 mile E.

In hard winters, ice can lie in Sagfjorden from Salangsverket to Sjovegan, where the quays are blocked.

Sjovegan (68°53'N., 17°50'E.) is the administrative center for the Salangen district. It is a coastal harbor protected by breakwaters, situated on the NE shore of Sagfjorden, 2.75 miles SE of Salangsverket. There are several quays up to 48m in length, with depths of up to 8m.

Mjosundet (68°54'N., 17°27'E.), formed between Andorja on the SW side and the mainland on the NE side, is entered from Astafjorden in a position about 3 miles N of the entrance to Lavangen.

Mjosundholmen (68°53'N., 17°28'E.), an islet marked by a light, lies in the SE entrance to the sound. The islet may be passed on either side. A shoal, with a depth of less than 1.8m, lies 0.3 mile ENE of the islet.

In Mjosundet, there is nearly always a strong W and N flow, but after N winds of long duration it is weaker, and may occasionally run S and E. A bridge, with a vertical clearance of 34.7m, crosses Mjopsundet.

From a position E of **Harstad** (68°48'N., 16°33'E.), Vagsfjorden leads about 18 miles NE to the S entrance to Tranoyfjorden.

Vessels in transit of this part of Vagsfjorden should steer to pass about 1 mile W of **Engenes** (68°56'N., 17°07'E.), the NW point of Andorja, then steer for the N edge of **Bergsheia** (69°03'N., 17°24'E.) situated on the island of Dyroya, about 9 miles NE of Engenes.

Tranoyfjorden (69°04'N., 17°19'E.) is entered between Hageneset, the S extremity of Dyroya, and Stonglandet, a peninsula extending SE from Senja.

Indreleia, continued from the NE end of Vagsfjorden, has two alternative routes leading into Solbergfjorden, known as Tranoyfjorden and Dyroysunde. Tranoyfjorden is the principal channel. Dyroysundet, formed between Dyroya and the mainland, can be used by large vessels.

Dyroy Bridge, with a vertical clearance of 17.6m, crosses Dyroysundet.

8.41 Tranoyfjorden, deep and free from dangers in the fairway, leads NNE to Solbergfjorden.

From Solbergfjorden, the fairway leads ENE to the junction with Finnfjorden, then NW to Finnsnes, a distance of about 24 miles.

Bispeflua (69°01'N., 17°14'E.), which dries and is marked by a light, lies at the S end of Tranoyfjorden on the W side of the fairway, 0.75 mile off Stonglandet. Foul ground with several islets, including Leikangsoy, extends N about 2 miles from a position 0.3 mile NE of Bispeflua. A reef fringes Hoyholmen, an islet 2 miles N of Leikangsoy.

Solbergfjorden (69°08'N., 17°38'E.), formed between the SE side of Senja and on the E by the mainland, is the continuation of Indreleia from Tranoyfjorden. The fjord is broad and free from dangers in the fairway.

The tidal currents in Solbergfjorden set N with the rising tide and S with the falling tide.

During W winds, heavy squalls, which may blow from any direction, are experienced near **Klauva Light** (69°11'N., 17°58'E.). These squalls decrease as Finnsnes is approached and it becomes nearly calm in Gisundet. If it is blowing hard from S or SE, irregular winds may be expected, and violent squalls may strike down from Kistefjell, a peak 5 miles NE of Finnsnes.

From Solbergfjorden, the fairway of Indreleia leads NE between Klauva Light and **Grunnreisaskjaer** (69°11'N., 18°02'E.), a rocky 4.9m shoal, about 2 miles E. From this shoal the track turns NW toward Finnsnes, the S entrance to Finnsnesrenna.

The approach to Finnsnesrenna, which is entered W of Finnsnes, leads between Storvikgrunn, on the W side, and Millomgrunn on the E side of the fairway. They have least depths of 7.9m and 12.8m, respectively.

The E part of the channel connecting Solbergfjorden and Finnsnesrenna is Finnfjorden, and the W part is Laksfjorden.

Hemmingfjorden (69°12'N., 18°04'E.), about 1 mile NNE of Grunnreisaskjaer, has a timber quay 31m long, with depths of 4.5 to 7.5m alongside. The quay is in poor repair.

At Storvik, in Finnfjordbotn, the NE part of Finnfjorden, there is a poorly fendered quay 25m long with 6.5 to 7.5m alongside. At Storneset, close SSW of Storvik, there is a quay associated with the smelting works, 42m long with 13m alongside.

Finnsnes (69°14'N., 17°58'E.) ([World Port Index No. 21490](#)) is the administrative center for the Lenvik district. It is a natural coastal harbor situated at the SE entrance to Finnsnesrenna. There is a packet boat quay, 87m long, with depths of 5 to 7m alongside.

8.42 Finnsnesrenna (69°14'N., 17°58'E.), formed in the narrows between Senja and the mainland, is entered abreast of Finnsnes and leads N into Gisundet. Gisundet extends in a general N direction for about 16 miles to its junction with Malangen, off the NE extremity of Senja.

There is a channel through Finnsnesrenna and Gisundet with 11m of water, but the channel itself is not marked for vessels with draft greater than 10.5m.

There are two channels through Finnsnesrenna.

The W channel is entered W of **Finnsnesskjaer** (69°14'N., 17°58'E.), a shoal which dries, situated about 0.4 mile NNW from the light on Finnsnes.

A bridge, with a vertical clearance of 41m, spans Finnsnesrenna, about 1 mile N of Finnsnes. The white sector of the lights on the bridge leads through the channel.

Regulations.—Traffic is controlled from a signal station situated about 0.5 mile N of Finnsnes.

Southbound traffic has right of passage over northbound traffic. Vessels with a draft of less than 6.1m use the E channel.

Signals.—The following signals, shown at the signal station, indicate that passage is closed to northbound traffic:

1. By day—Flag N of the International Code of Signals over a black ball.
2. By night—A white light over a red light.

Gisundet (69°18'N., 17°58'E.) is well marked; the dangers and navigational aids may best be seen on the chart.

Tides—Currents.—The tidal currents set through Gisundet with considerable strength, attaining their greatest velocity in the vicinity of Gibostad, about 8 miles N of the bridge.

With the rising tide the tidal current sets N from the S entrance, losing strength toward a point 5 miles N of Finnsnes, where it meets the S flood current from Malangen.

8.43 Gibostad (69°21'N., 18°05'E.) ([World Port Index No. 21380](#)) is situated on the W side of Gisundet. It is a natural

coastal natural with a packet boat quay, 59m long, with depths of 5.5 to 7.5m alongside.

An area prohibited to diving, fishing, and anchoring is charted N of Gibostad.

Gisundet extends about 8 miles N from Gibostad to Malangen, the approach to Tromsø.

Sandholmen (69°25'N., 18°06'E.), an islet surrounded by shoal water, lies on the W side of the fairway, 3.75 miles N of Gibostad. The shoal water is marked on its E edge, about 0.3 mile off the islet. Other foul ground lies on the W side of the fairway NNW of Sandholmen.

The white sector of the light on **Slettneset** (69°23'N., 18°06'E.), 1.5 miles NNE of Gibostad, leads E of the dangers off the W side of Gisundet and into the white sector of the light on **Lille Rodbergsodden** (69°27'N., 18°08'E.), 4.75 miles NNE. A light, about 1 mile NE of Lille Rodbergsodden, is foul.

Aglapsbaen, a group of rocks partly awash, lies 0.5 mile offshore 1.5 miles NE of the light.

Indreleia leads into Malangen through the broad entrance of Gisundet, N of Lille Rodbergsodden.

Andenes to Tromsø

8.44 From abreast of Andenes, the W side of Senja trends about 29 miles NE to the seaward entrance to Malangen, the passage leading to Tromsø. Kvaløy is on the N side of Malangen and W of Tromsø.

Both islands have abrupt declivities toward the sea, and are fronted by banks, with islets and below-water rocks extending up to 11 miles off the NW side of Kvaløy.

Two large banks, Sveinsgrunn and Malangsgunden, with depths of less than 183m, extend, respectively, to a distance of 25 miles W of Senja, and 35 miles W of the N part of Kvaløy.

Between the two banks, a fissure, with depths over 280m, extends into Malangen and to a short distance from the outer dangers extending W from Kvaløy. The approach to Malangen is made with considerable danger in thick weather, even with careful attention to soundings.

A vessel, having made the W coast of Senja between Andenes and Kvaløy, with the island of Andoya bearing 180°, can obtain a fix by means of the mountains on Senja. Vessels running the W side of Senja should not close to within a distance of 6 miles.

Strangers will have difficulty in identifying this part of the coast from the offing. When seen from a distance, the larger islands appear to diminish those in the background, and on closer view, to hide them altogether. At a distance, the islands themselves lose their height and peculiarity of outline and appear to form a continuous mass, which is capped by so many sharp peaks that considerable local knowledge is required to identify with certainty any one in particular.

The most conspicuous points are **Andenes** (69°20'N., 16°08'E.), the N extremity of Andoya, and the N point of Kvaløy, about 30 miles NE of the NW extremity of Senja. As a rule the openings of the numerous fjords and channels will be the most useful guides.

Aspect.—**Kjerringneset** (69°19'N., 16°55'E.), a point on Senja 16.5 miles E of Andenes, is a good landmark when approaching the coast from W of Andenes. Maneset,

Teistneset, and Traelen, 3.75 miles N, 5.75 miles NNE and 8 miles NNE, respectively, from Kjerringneset, are good marks.

At the N extremity of Senja is **Kjolva** (69°36'N., 17°30'E.), 416m high, which is especially prominent and can hardly be mistaken from a position NW of Andenes.

Sneffjell, a rounded snowy summit 653m high, about 13 miles S of Kjolva, and Kvennan, 967m high with pointed peaks, about 15 miles SW of Sneffjell, are also good marks from NW of Andenes.

When nearing the coast NW of Kjolva, the opening of Oyfjorden, on the E side of Kjolva, will be visible. About 8 miles SE and 7.5 miles ESE of Kjolva are Skinnkollen and Astria, 731m and 742m high, respectively, which are the most important marks for the entrance to Malangen.

In the vicinity of Kvaloy at Malangen, the island of **Haja** (69°44'N., 18°05'E.), 486m high, lies about 12 miles NNE of Astria. It can be distinguished from the neighboring islands and hills, by its precipitous fall to seaward.

About 3 miles E of the summit of Haja is the summit of Sessoya, 657m high. About 8 miles NE of Sessoya are the pointed peaks of Vengsoya, up to 765m high.

From a position W of **Auvaer** (69°52'N., 18°00'E.), a group of islets on the foul bank extending from the N end of Kvaloy, the Alp-like mountains of that island will be seen behind the islands in the foreground. The mountains bordering Ersfjorden, together with Tromtind, 3 miles NE of Sessoya, and Blamannen, 5.5 miles SE of Tromtind, are the most conspicuous.

Pilotage.—There is a pilot station at Andenes; 12 hours advance ETA is required. If entering by Lodingen, 2 hours notice is required. The pilot boats guard VHF channel 16.

8.45 Malangen is entered between **Hekkingen** (69°36'N., 17°50'E.) and Edoya, 1.5 miles NE. A light is situated on each entrance point. This channel is the best approach from the SW to Tromsø.

Hekkingen Light is shown from a low tower on a wooden house, 10m in height. A racon is located at the light tower.

Malangen extends about 13 miles in a SE direction to its junction with Straumsfjorden. An arm of Malangen continues SE for about 12 miles to Nordfjorden, which lies at its head.

Indreleia enters Malangen from Gisundet about 10 miles from its W entrance.

Winds—Weather.—During N winds over Malangen, it will often be calm, or there may be a light breeze off **Greipstad** (69°31'N., 18°13'E.) about 3 miles NNE of the entrance to Gisundet. With a N wind out of Straumsbukta, 9 miles E of Greipstad, and S through Malangen, it is often calm in Rystraumen.

During E winds out of Malangen, it is often calm in Stonnesbotn, on the SW side of the passage, 4 miles SE of Hekkingen. It is also often calm under these conditions from Asnes, 5 miles ESE of Greipstad, to a position about 2 miles farther ENE.

During SE winds in Malangen, strong squalls are experienced from S of Straumsbukta to a position about 3 miles SW; these squalls are especially frequent at the SW position.

During SW winds in Malangen, irregular winds will be experienced from the NW entrance point of Gisundet, seaward.

During W winds, it is often calm in the neighborhood of the NW entrance to Gisundet.

Tides—Currents.—During the spring season the, tidal currents set very strongly out of Malangen, independently of the tidal currents close inshore on both sides of the fjord, where they turn at the times of HW and LW.

During the summer and autumn months, the outgoing tidal currents have the stronger set, whereas during the winter months the set is more strongly into the fjord. The tidal currents set strongly through the channel SE of Hekkingen, taking a W direction with the falling tide.

Numerous whirlpools occur in Rystraumen when the tidal currents are running at their maximum strength; when passing through them great attention must be paid to the steering.

The tidal currents in Rystraumen set SW with the falling tide and NE with the rising tide, the turn occurring at the times of H and LW. They set strongly through the passage, attaining a maximum velocity of 6 to 7 knots.

According to the latest observations in Tromsøysundet, the tidal currents set S from about 1 hour 45 minutes before HW until about 1 hour 45 minutes before LW, when they turn and set N until about 1 hour before HW. At springs the velocity is up to 6 knots at the narrowest part, being strongest midway between the turns of the currents. The average velocity is from 4 to 5 knots in the narrowest part and from 2 to 3 knots N and S of this part. During N gales the tidal currents set S almost continuously, the slack lasting only for about 0.2 hour, when they continue to set S with S winds there may be slack water for 0.25 hour, otherwise the currents turn with no period of slack water.

Owing to the formation of the bottom, the tidal currents do not run truly in the direction of Tromsøysundet. The N current, for example, often sets in toward the mainland in the vicinity of Krokelta, the mouth of which is about 3 miles NE of Storsteinnes Light; therefore when visibility is bad specially careful navigation is necessary.

When proceeding S against the N current, a vessel will always have the current on the starboard bow, and is therefore liable to go ashore on Tomasjordnes, about 1.25 miles NE of Storsteinnes Light.

Caution.—Firing areas are established in Malangen from Hekkingen to the junctions with Gisundet and Straums Fjord.

Dangers in the entrance to Malangen may best be seen on the chart.

8.46 Kvaltyvan (69°39'N., 17°45'E.), a group of below-water rocks with a least depth of 5.8m, lies on the SW side of the approach to Malangen, in a position 3.25 miles NW of Hekkingen.

On the NE side of the fairway, shoals, with a depth of 4.9m at its outer end, extend 0.8 mile NNW from Edoya.

Within the entrance there are no dangers in the fairway, except for a narrow coastal reef off Kvaloy.

Caution.—An ammunition dumping ground lies in Malangen, with its N end situated about 2 miles SE of Hekkingen.

From Greipstad, the S extremity of Kvaloy, the continuation of Indreleia from the E end of Malangen is known as Straumsfjorden, with the narrows between Kvaloy and the island Ryoy, known as **Rystraumen** (69°33'N., 18°43'E.),

where the channel has a least width of 0.2 mile between the shore banks. Skallen, a shoal patch with a least depth of 7.9m, lies in the W entrance to Rystraumen, 0.15 mile NW of Ryoy.

A rock NE of the light N of Ryoy is especially dangerous, as the SW tidal current sets toward it.

The coastal reef extends about 0.3 mile SSE from **Tisnes** (69°36'N., 18°50'E.), 3 miles NNE of Ryoy; a drying reef lies E of Tisnes.

A shoal, with a least charted depth of 3.4m, lies 1.25 miles NE of Tisnes.

Tromsoya (69°40'N., 18°57'E.), 5.75 miles NNE of Ryoy, is fringed by a coastal reef, which extends up to 0.2 mile from the SE and SW sides.

The coastal reef which fringes the mainland on the SE side of Tromsoysundet dries in places. A rock, awash, lies on the reef 0.5 mile S of the bridge which spans the channel.

8.47 Tennskjerholmen (69°29'N., 18°19'E.) lies close off the W side of Malangen, 3.5 miles SSE of Greipstad; from this position Malangen continues SSE.

Foroya lies on the E side of the channel, 2.5 miles E of Tennskjerholmen. A shoal, with a charted depth of 1.8m, extends 0.4 mile from the mainland, from a position about 2 miles S of Foroya.

Spilderoya (69°25'N., 18°29'E.) lies on the E side of the fairway, 2.5 miles S of Foroya, and is surrounded by a flat which extends 0.35 mile NNW from the N end and 0.7 mile SSE from the S end. There is a 1.8m depth charted on the N flat, and 4.9m charted at the extremity of the S flat.

It has been reported there is good anchorage, in 27m, 2 miles SE of Spilderoya. It is protected from SE weather.

Malselv fjorden, entered 3.75 miles SSE of Spilderoya, extends about 8 miles S from its entrance. The S half of the fjord is shoal.

Nordfjorden, the SE continuation of Malangen, is entered E of **Malsnes** (69°21'N., 18°34'E.), which lies 4 miles SSE of

Spilderoya. Aursfjorden, which branches S from Nordfjorden, is entered about 3 miles SSE of Malsnes. A reef extends about 0.5 mile N from the E entrance point of the fjord.

A cable, with a vertical clearance of 26m, spans Nordfjorden 6.75 miles within its entrance.

8.48 Balsfjorden (69°32'N., 18°55'E.) is entered between Balsnesodden, 1.75 miles ENE of Ryoy, and Bergholmen, an islet 2.25 miles E. The fjord indents the mainland about 25 miles, in a SE direction.

Ramfjorden branches E about 3 miles within the entrance to Balsfjorden. A Military Prohibited Area has been established in Ramfjorden; the area is delimited to the S by a line drawn between Kobben Light and the S point of land at Ramfjordnes, and extending NE to the parallel of latitude at Hundbergklubben and the islands lying due E of it. An overhead cable, with a vertical clearance of 45m, spans the fjord close within its entrance.

The shore reef fringing the W side of Balsfjorden extends to a distance of 0.5 mile in places; an 8.8m patch lies near mid-channel, about 8 miles within the entrance.

During the ice season, Balsfjorden is usually obstructed for about 8 miles from its head; occasionally the ice may extend N to within a few miles of the entrance.

A measured mile is situated on the E shore of Balsfjorden, with the N limit at Bergholmen. The N outer mark stands on a skerry near Ytre Berg; the S outer mark stands near Holmesletta. The course to be made good is 162°/342° at a distance of about 0.5 mile from the outer marks.

Vessels approaching Malangen from W should stand sufficiently far N to clear **Kvaltyvan** (69°39'N., 17°45'E.) before altering course for the entrance to the fjord.

When the dangers NW of Edoya are abeam, course can be altered into Malangen, keeping in mid-channel, and then into Indreleia.



Tromsø

The SW coast of Kvaløya should not be approached closer than 0.3 mile, as many large boulders lie at some distance from the shore.

It has been reported that it is dangerous for small craft to approach Malangen from the NW during a NW gale, as strong opposing currents may be encountered NNE of Hekkingen.

Tromsø (69°39'N., 18°57'E.)

World Port Index No. 21310

8.49 The city of Tromsø is located on the islands of Tromsøya and Kvaløya, and on the neighboring mainland. It is about 30 miles from the open sea. Tromsø's municipality, which is, in area, Norway's largest, extends to additional islands and over a large area of the mainland. The highest mountain in the municipality is Jiekkvarre, which is 1,833m high. Tromsdalstind, which is visible from the town center, rises to 1,238m.

Tromsø experiences 2 months of midnight sun from May 21 until July 23. The sun does not rise in Tromsø from November 25 until January 21.

Tromsø's harbor has two installations. The old port stands close to the center of the city; the new port stands about 1.75 miles N. The harbor area extends from, and includes Rystraumen in the S, to a line from Kvalsundet to the mainland in the N.

Prostneset, the old harbor, on Tromsøya, is near the W end of the bridge. It has three sections. Søndre Havn, located about 0.5 mile SSW of the Tromsø Bridge, is protected by the S breakwater. Indre Havn, which is close to and SSW of the bridge, is protected by the N breakwater. Polsehamna, the third section of the old harbor, is N of the bridge.

Breivika, the new port, also on Tromsøya, N of the city center, has container and ro-ro facilities.

Winds—Weather.—Weather conditions seldom seriously interfere with port working conditions. The harbor and approaches are ice-free.

Tides—Currents.—Strong and somewhat complex tidal currents are liable to be experienced in the whole area around Tromsøya, reaching a velocity of 4 to 5 knots in the narrowest part of Tromsøysundet abreast N mole.

A marked, irregular countercurrent is experienced close to the shore alongside the moles. In the vicinity of the bridge, the current starts flowing in a S direction 1 hour 30 minutes prior to HW and reverses direction 1 hour 30 minutes prior to LW.

The mean tidal range is 1.8m and the spring range is 2.4m.

Depths—Limitations.—The Harbor Authority operates about 1,500m of quays, with depths of about 3 to 11m alongside. There are also about 1,600m of private quayage.

The quays at Breivik are 120m long, with 10.5m alongside, and 90m long, with 8m alongside. The ro-ro facilities in Breivik will accommodate containers to 6.1m.

On the mainland side of the harbor there is a bunker station, 70m long, with a depth of 11.9m alongside. There are numerous other berths on the mainland side.

Vessels up to 40,000 dwt, with a maximum draft of 10.4m, can be accommodated.

Vessels greater than 7,000 dwt should pass through Sandnessundet, W of Tromsøya.

Tromsø Bridge, spanning Tromsøysundet, has a horizontal navigational width of 60m and a vertical clearance of 36m. The centerline of the channel is indicated by lights and a racon.

A least depth of 7m was reported (1992) under the bridge.

Pilotage.—Harbor pilotage is compulsory for all vessels over 300 grt. Regular route vessels with a fixed pilot on board are not obliged to take a harbor pilot. Entry and exit pilots can be obtained at Tromsø Pilot Station.

The Tromsø Harbor Authority maintains a 24-hour watch and may be contacted on VHF channels 8, 12, and 16 for services. Pilot requests are required 12 hours before arrival and vessels may be berthed both day and night.

Pilots board in the following positions:

a. 0.7 mile ENE of Hekkingen Light in position 69°36.5'N., 17°52.0'E.

b. 2 miles E of Fakken Light on Fakkakjeila in position 70°06.0'N., 20°13.0'E.

c. On request, 1 mile NE of Grotnes Light in position 69°52.4'N., 19°47.8'E.

Regulations.—Vessels navigating within the port area are forbidden to proceed at a greater speed than required for their safe maneuvering. Vessels of more than 500 tons must not exceed 5 knots between the S mole and Storsteinnes; however, when passing under the bridge it may be necessary to use speeds of 10 to 12 knots at times other than slack water.

Vessels arriving at Tromsø and not having an allotted berth must anchor in Polsehavn, about 0.2 mile NE of the W end of the bridge.

Anchorage.—Polsehavn affords anchorage, in 11 to 12.8m. Large vessels can anchor on the W side of the fairway, in depths of 31m, from 0.5 to 1.5 miles N of the bridge.

Anchorage is prohibited in the vicinity of the submarine cables which cross Tromsøysundet close S of the S mole.

8.50 Sandnessundet (69°41'N., 18°54'E.), between the E side of Kvaløya and Tromsøya, is the principal channel leading past Tromsøya. Vessels exceeding 7,000 tons displacement are required to use it.

The narrowest part, between **Langneset** (69°41'N., 18°54'E.) and Sandneset, 1.5 miles NNE, has been dredged to a depth of 16.5m, with a navigable width of 100m.

Sandnessundet Bridge spans the channel 0.75 mile N of Langneset. It has a vertical clearance of 41m over a navigable width of 140m. The centerline is marked by lights and a racon.

Store Grindøy (69°38'N., 18°51'E.) lies on the W side of the S entrance to Sandnessundet. A bank, with patches of 3m, extends about 1 mile N and S from the island. A bank, with a depth of 1.8m at its extremity, extends 1 mile SSW from Langneset.

The dangers, which may best be seen on the chart, are marked by navigational aids. The white sectors of the various lights lead through the dredged channel and to Indreleia.